

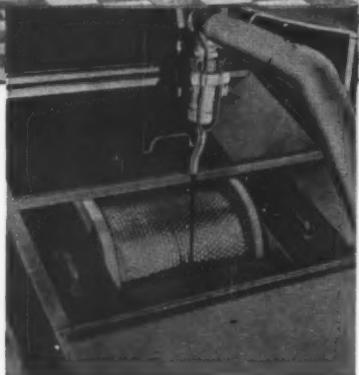
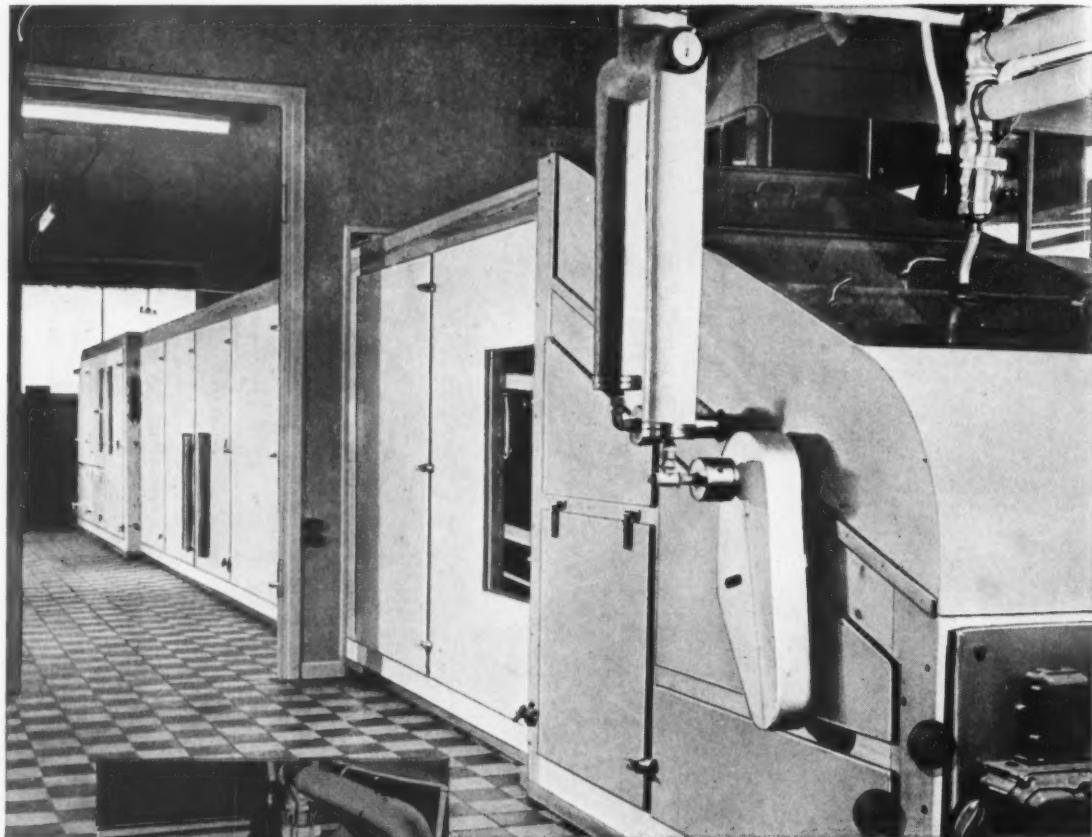
June / 1961

DETROIT

- *Program of National Confectioners Association*
- *Project: Package Design*
- *A new chocolate coating technique*
- *Model helps build a plant*

*Manufacturing Confectioner*

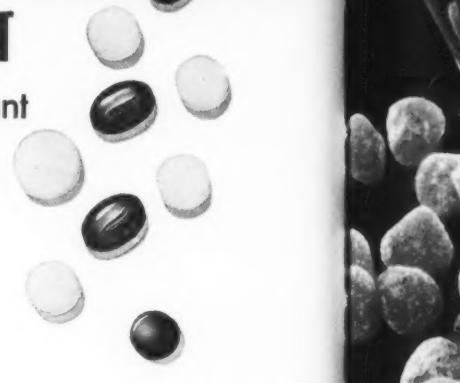
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for high speed production  
of small chocolate goods  
such as  
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mocca beans,  
small eggs etc.



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Capacity depends on the size of the pieces. As an example, lentils sized 800 per pound, made on a unit with two sets of rolls, will produce from 500 to 600 pounds per hour.

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## protects Mrs. Snyder's

DIVISION FANNY MAY KITCHEN FRESH CANDIES



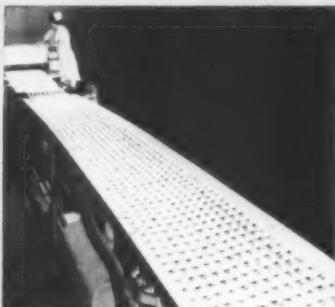
**Miragloss Tunnel Belt** imparts desired gloss to bottoms as candy emerges from enrober at Mrs. Snyder's big Chicago plant.

You spend thousands of insurance dollars annually to protect your property. Doesn't it make just as good sense to protect your candy during production?

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Check with any Burrell "insured" plant. You'll find that this complete Protection Service will free you, too, from all belting problems.



**Double Texture Reflecto Belt** has a crackless glazed surface, carries centers over cold table.



**Double Texture Reflecto Belt** (left) and **Endless Treated White Cotton Single Ply Belt** (right) provide quick transfer and release of centers at bottomter station.



**Miragloss Glazed Belt** of flexible design channels finished candies moving over Vibra-Pak equipment to packing station.

Write for the new Catalog describing the full Burrell Belting line for candymakers.



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See latest in belting at Booth 44, NCA Convention, Conrad Hilton Hotel, Chicago

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# candy business

## Brach business up

For the first six months of their fiscal year, ended April 1, E. J. Brach & Sons, Chicago, reported net sales of \$35,021,000. This is 3.63% above sales for the same period last year. Net profit after taxes stood at \$2,428,000 for the six months (Oct. 1, 1960 to April 1, 1961) compared with \$2,304,972 for the same period a year ago, a jump of 5.34%.

## Van Emburgh new officer at Federal Sweets

W. B. Van Emburgh has been elected executive vice president and general manager of Federal Sweets & Biscuit Co., Inc., Clifton, N. J.

A 35-year veteran of the food field, Van Emburgh was vice president and sales director of Weston Biscuit Co., Inc., Passaic, N. J. He joined the firm in 1934 as a salesman. Previously he was with A & P Food Stores.

Federal Sweets has marketed a broad line of candy, chocolates and cookies for more than 25 years.

## Superior fruit changes name

Superior Fruit and Confections, Inc. is new name for Superior Fruit Processing Co., Inc. The name change has been instituted to more accurately identify the company with confectionery products handled. There has been, however, no change in management.

The Superior Fruit Processing Co. will be retained as a trade name by the Staten Island producer of Palmania Glace, dried fruits, and importer of stuffed dates. The firm prepares and packs a complete line of Easter baskets and novelties, plus other confectionery products.

## Pet Milk buys Van Kirk

Pet Milk Co. (Canada) Ltd. has entered the chocolate business through the purchase of Van Kirk Chocolate Corp., Toronto. Purchase price is said to be over \$1 million and the new acquisition will be operated as a subsidiary of Pet Milk (Canada), a subsidiary of Pet Milk Co., St. Louis, Mo.

The 60,000 sq. ft. Van Kirk plant in Toronto produces chocolate bars, and baking chocolate, distributed mainly through grocery outlets.

## Boston section AACT elects officers

Varney Hintlian, Deran Confectionery Co., Inc. is chairman-elect of the Boston section of the American Association of Candy Technologists. Other officers

## March Sales of Confectionery and Chocolates were \$102.7 million

For the first three months of 1961, poundage sales of confectionery and chocolate products rose 1% above sales for the same period a year ago. However, dollar sales were 1% below the 1960 figure.

Poundage sales of package goods retailing above 50¢ rose 6% for the first quarter this year, compared with last year; poundage sales of bar goods fell 2%.

March '61 sales for the industry, estimated at \$102.7 million, was off 3% compared with the previous month, and 2% below March '60 figure.

TABLE 1.—CONFECTIONERY AND COMPETITIVE CHOCOLATE PRODUCTS: DOLLAR SALES BY KIND OF BUSINESS

Item	Estimated sales of current month and comparisons				
	Percent change		Estimated sales year to date		
	March 1961	from March 1960	3 months from March 1961	3 months from March 1960	Percent change
Confectionery and competitive chocolate products, estimated total	102,710	— 2	314,201	( <sup>a</sup> )	
BY KIND OF BUSINESS:					
Manufacturer-wholesalers	78,227	— 8	247,721	( <sup>a</sup> )	
Manufacturer-retailers <sup>1</sup>	10,026	+81	21,715	+24	
Chocolate manufacturers	14,457	( <sup>a</sup> )	44,765	+2	
TOTAL ESTIMATED SALES OF MANUFACTURER-WHOLESAVERS BY DIVISION AND STATES					
New England	7,423	— 16	24,963	— 12	
Middle Atlantic	24,698	+ 1	79,855	+ 4	
N. Y. and N. J.	14,620	+13	41,996	+ 6	
Pa.	10,078	— 12	37,859	+ 2	
East North Central	27,378	— 16	87,387	— 7	
Ill.	24,141	— 15	76,736	— 7	
Ohio and Ind.	2,348	— 19	7,083	— 2	
Mich. and Wis.	889	— 16	3,568	— 7	
West North Central	4,131	+ 7	11,701	+ 7	
Minn., Kan., S. Dak., and Neb.	2,367	— 3	7,039	( <sup>a</sup> )	
Iowa and Mo.	1,764	+26	4,662	+18	
South Atlantic	3,808	— 7	11,406	— 1	
Md., D. C., Va., W. Va.	1,674	— 11	4,978	— 5	
N. Car., and S. Car.	2,134	— 3	6,428	+ 2	
East South Central:					
Ky., Tenn., Ala., and Miss.	1,746	— 8	5,271	+ 1	
West South Central:					
Ark., La., Okla., and Tex.	2,955	+ 1	9,490	+ 8	
Mountain:					
Ariz., Colo., Idaho, N. Mex., and Utah	1,022	+ 7	3,087	+13	
Pacific	5,066	— 3	14,561	+ 3	
Calif.	4,119	— 4	11,795	+ 3	
Wash. and Ore.	947	+ 2	2,766	( <sup>a</sup> )	

<sup>1</sup>Retailers with two or more outlets.

<sup>a</sup>Less than 0.5 percent change.

TABLE 2.—POUNDAGE AND DOLLAR SALES OF SELECTED MANUFACTURER-WHOLESAVERS AND CHOCOLATE MANUFACTURERS, BY TYPE OF CONFECTIONERY

Type of product <sup>1</sup>	March 1961		Pounds (1,000)		First 3 months	
	Pounds (1,000)	Value (\$1,000)	1961	1960	Percent change from 1960	Percent change from 1961
TOTAL SALES OF SELECTED ESTABLISHMENTS						
117,092	47,050	360,715	+ 1	147,797	— 1	
Package goods made to retail at:						
\$1 or more per lb.	3,609	3,968	13,839	— 4	16,961	— 3
\$ .50 to \$ .99 per lb.	8,917	4,536	30,299	+11	15,540	+5
Less than \$ .50 per lb.	17,589	4,610	53,915	+ 3	14,136	+3
Bar goods	55,531	22,401	166,141	— 2	66,763	— 5
5¢ and 10¢ specialties	14,141	6,623	39,659	+ 2	18,529	+5
Bulk goods <sup>2</sup>	17,305	4,912	56,862	+ 6	15,868	+6

<sup>1</sup>Selected group of large manufacturer-wholesalers and chocolate manufacturers report sales by type of product. Companies reporting such detail account for approximately half of the total dollar sales of manufacturers.

<sup>2</sup>Includes penny goods.

Data from monthly *Current Industrial Reports* of U.S. Dept. of Commerce

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elected for the ensuing year at the group's annual meeting include: **Joseph Downey**, W. F. Schrafft & Sons Corp., vice chairman; and Secretary-Treasurer **Donald C. Cahoon**, Brooks & Cahoon Co., Inc.

Those named to the executive committee are: **Edmund Judge**, Edgar P. Lewis & Sons, Inc.; **John Goolden**, Fanny Farmer Candy Shops, Inc.; **Arthur Peck**, New England Confectionery Co.; **Albert Cobb**, Howard D. Johnson Co.; **Margaret Coleman**, James O. Welch Co.; **Joseph Rebello**, Brigham's, Inc.; and **Everett Hurley**, James O. Welch Co., ex officio.

## New national sales manager for Curtiss Candy

Robert L. Carmichael is new national sales manager of Curtiss Candy Co., Chicago. The post has been vacant since last year, when E. F. Anderson was promoted to director of sales.

Carmichael has been western sales manager for the candymaker since 1959 with headquarters in Chicago. He joined the company in 1936 as a salesman in central Illinois, and later became manager of a district office in Texas.

## ACRI approves big budget for continuing cocoa research

Members of the American Cocoa Research Institute in convention last month approved a budget of over \$100,000 for continued scientific research in improving cocoa bean quality and assistance to cocoa farmers.

The ACRI Board of Directors elected Hans J. Wolfisberg chairman to succeed Lester W. Majer, vice president of the Hershey Chocolate Corp. Wolfisberg is president of The Nestle Co., Inc. Re-elected vice chairman of the group is John P. Woodward, president of Klein Chocolate Co.

## Nicolin heads Candymasters

R. D. Nicolin has been elected president of Candymasters, Inc., Minneapolis candymaker.

Nicolin, son of the firm's founder, the late A. G. Nicolin, has been vice president and sales manager for the past 2½ years. He has also had extensive experience in advertising as an account executive for leading advertising agencies in the Minneapolis area.

## NCA gets 12 new members

Since January 1, 12 firms have joined the National Confectioners Association, President Douglas S. Steinberg reports.

Three candy firms have been accepted for active membership. They include: **Breaker Confections, Inc.**, Chicago producer of bulk goods, 5¢ and 10¢ specialties, penny goods and cake decorations; **MacFarlane's Candies**, Oakland, Calif. manufacturing retailer specializing in chocolates, caramels, gums and jellies, fudge, creams, and nut candies; and **Poppycock Can-**

**dies**, Villa Park, Ill. producer of package and bar goods.

Allied memberships have been accepted from three chewing gum producers, namely **William Wrigley, Jr., Co.**, Chicago; **Beech-Nut Life Savers, Inc.**, New York; and **American Chicle Co.**, Long Island City, N. Y.

Six suppliers who have become sustaining members are: **Atlantic Paper Box Co.**, Cambridge, Mass.; **Great Western Mfg. Co.**, Leavenworth, Kan.; **The Lord Baltimore Press of California**, San Leandro; **Molded Fiber Glass Tray Co.**, Linesville, Pa.; **The Multicup Corp.**, Jamaica, N. Y.; and **Wright Machinery Co.**, Durham, N. C.

## Hinkle to get AACT Award

Samuel F. Hinkle, president of the Hershey Chocolate Corp. has been unanimously selected to receive the Stroud Jordan Award of the American Association of Candy Technologists. Presentation of the award is scheduled to be made at the Association's annual meeting in Chicago, June 12.

According to Stroud Jordan Award Committee Chairman Dr. Kathryn E. Langwill, director of Research for Refined Syrups & Sugars, Inc., Hinkle was singled out for his efforts in maintaining high level quality standards of confections, particularly chocolate. Also he is being cited for his early recognition and support of cooperative research by the Pennsylvania Manufacturing Confectioners' Association. This led to the inauguration of the internationally-known annual PMCA Production Conferences.

Hinkle joined Hershey in 1924 as chief chemist and director of research. He became plant manager in 1947, and president in 1956. He has been a director of the company since 1948, and also is president of Hershey Chocolate of Canada, Ltd.

## Wolfisberg named head of CMA

The Chocolate Manufacturers Association of the U.S.A. elected **H. J. Wolfisberg**, The Nestle Co., Inc., president for the ensuing year. Vice president is **John Woodward**, Klein Chocolate Co., and **Bradshaw Mintener** continues as executive director.

Other members of the Executive Committee include: **Russell Cooke**, Ambrosia Chocolate Co.; **Harry Easton**, Walter Baker Chocolate, General Foods Corp. **Frederick H. Fowler**, Mansfield Chocolate Co.; **L. W. Majer**, Hershey Chocolate Co.; and **Edmond Opler**, Cook Chocolate Co.

## Directors named for AMCC

Members of the Association of Manufacturers of Confectionery & Chocolate elected directors at their annual meeting, in New York City, recently. The directors include: **Arthur Baumgarten**, Barricini, Inc.; **Vic Bonomo**, Gold Medal Candy Co.; **Tom Corrigan**, The Nestle Co.; **Creighton Drury**, National Licorice Co.; **Andrew Heide**, Henry Heide, Inc.; **Jeff Jaffe**, Chunky Chocolate Co.; **Armin Schaper**, Delson Candy

(Continued on page 106)



We're looking forward with real pleasure to seeing you at the NCA Convention in Chicago. Stop in at our booth #302 in THE CONRAD HILTON HOTEL and visit with us in our hospitality suite at THE CONRAD HILTON HOTEL. We'll enjoy saying hello again.

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# the Manufacturing Confectioner

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Edited and Published in Chicago

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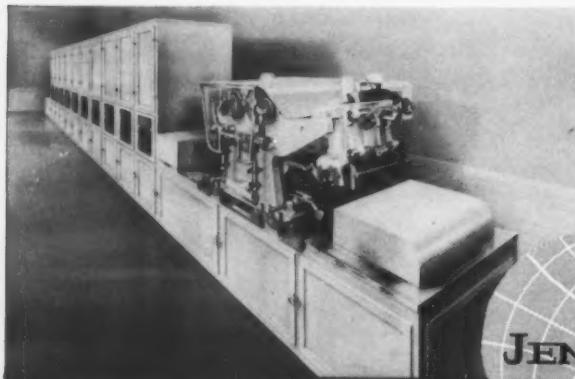
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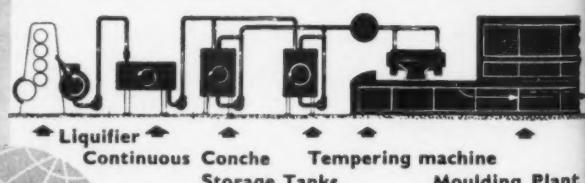
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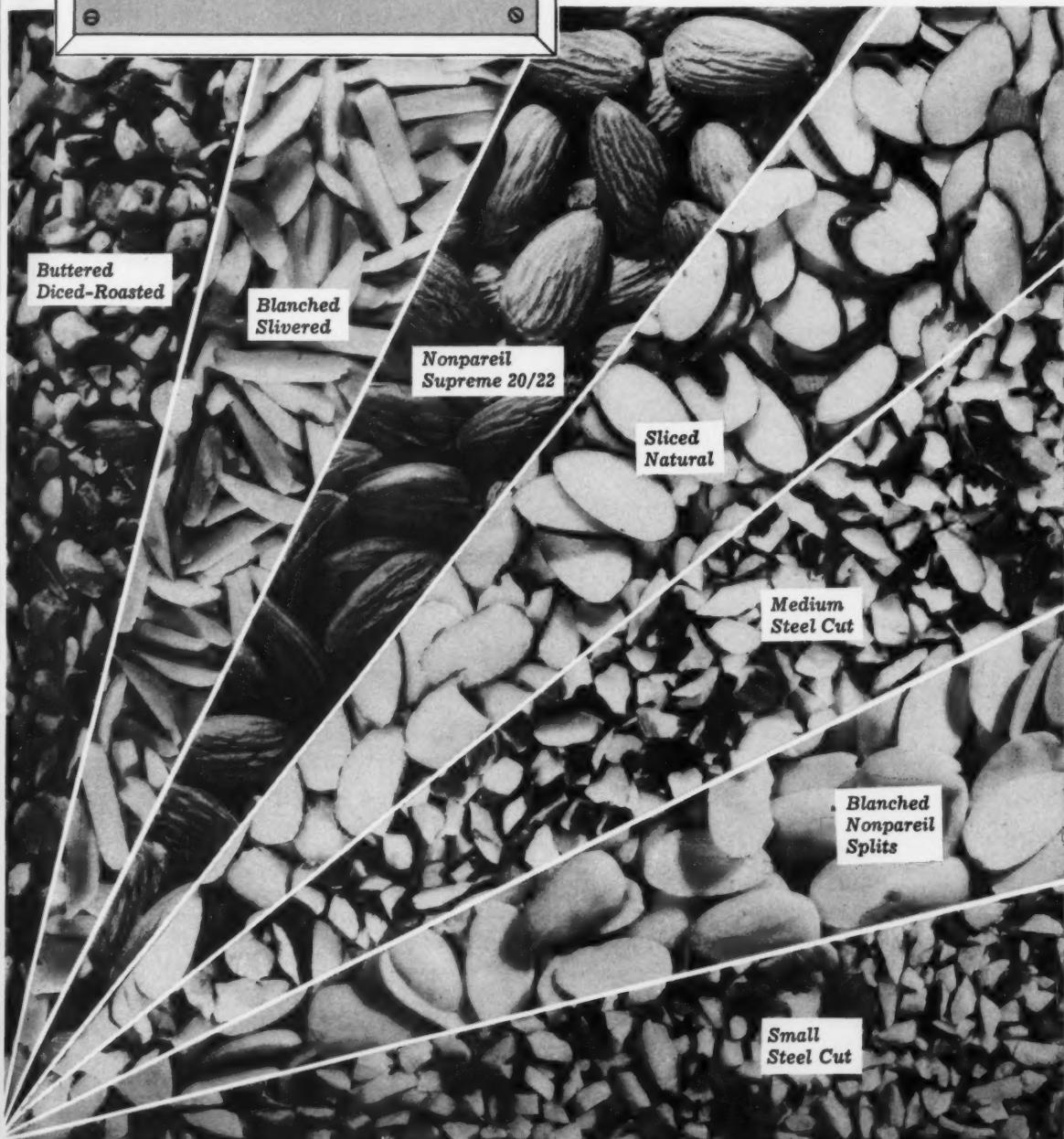
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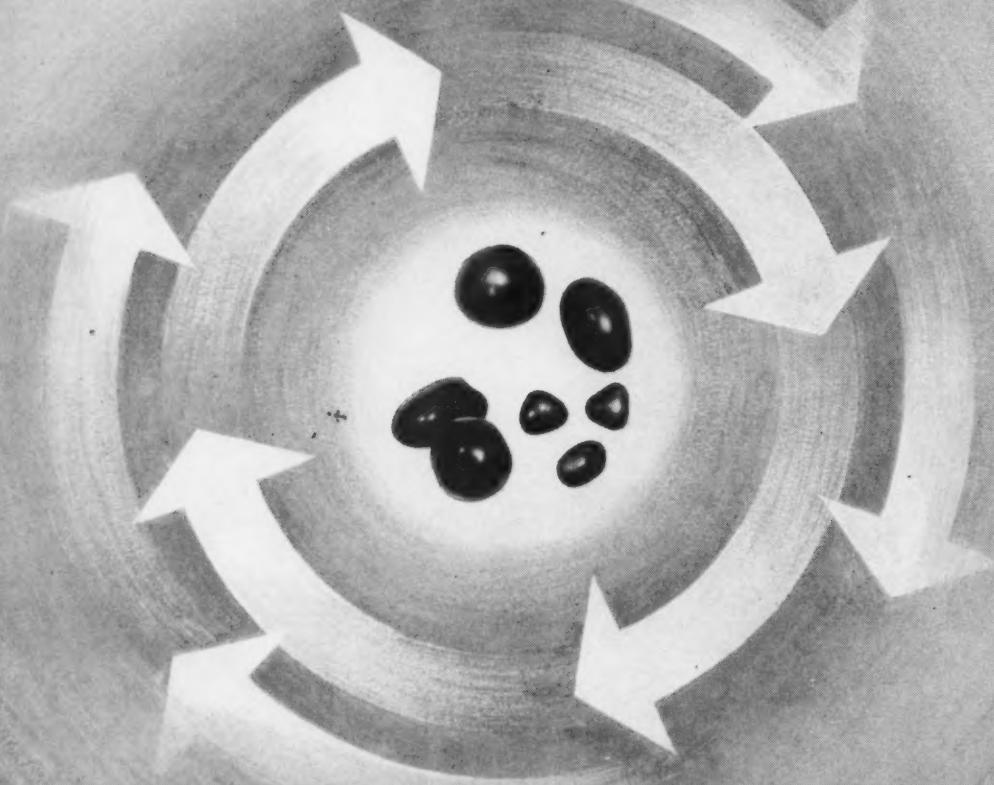
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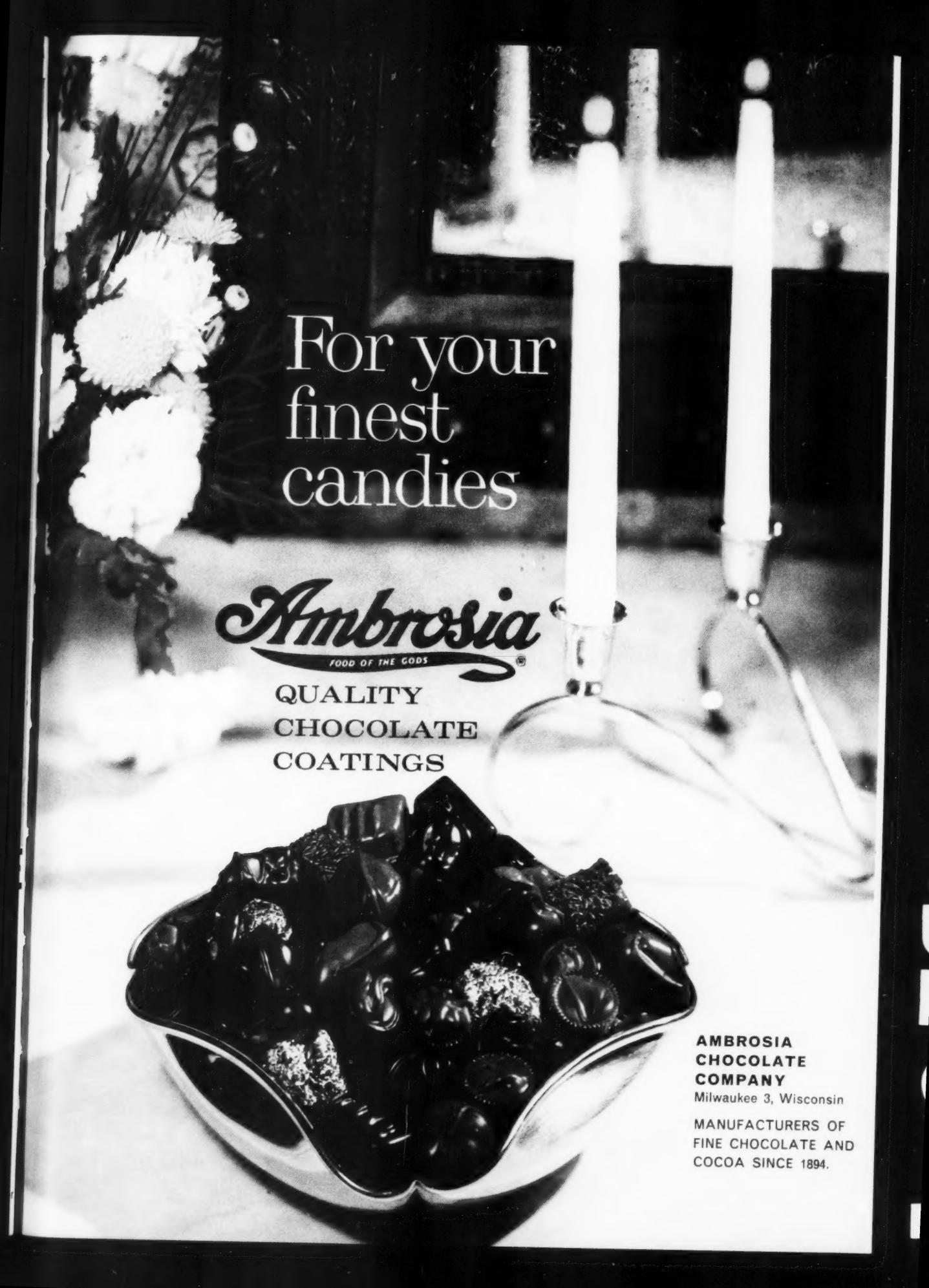
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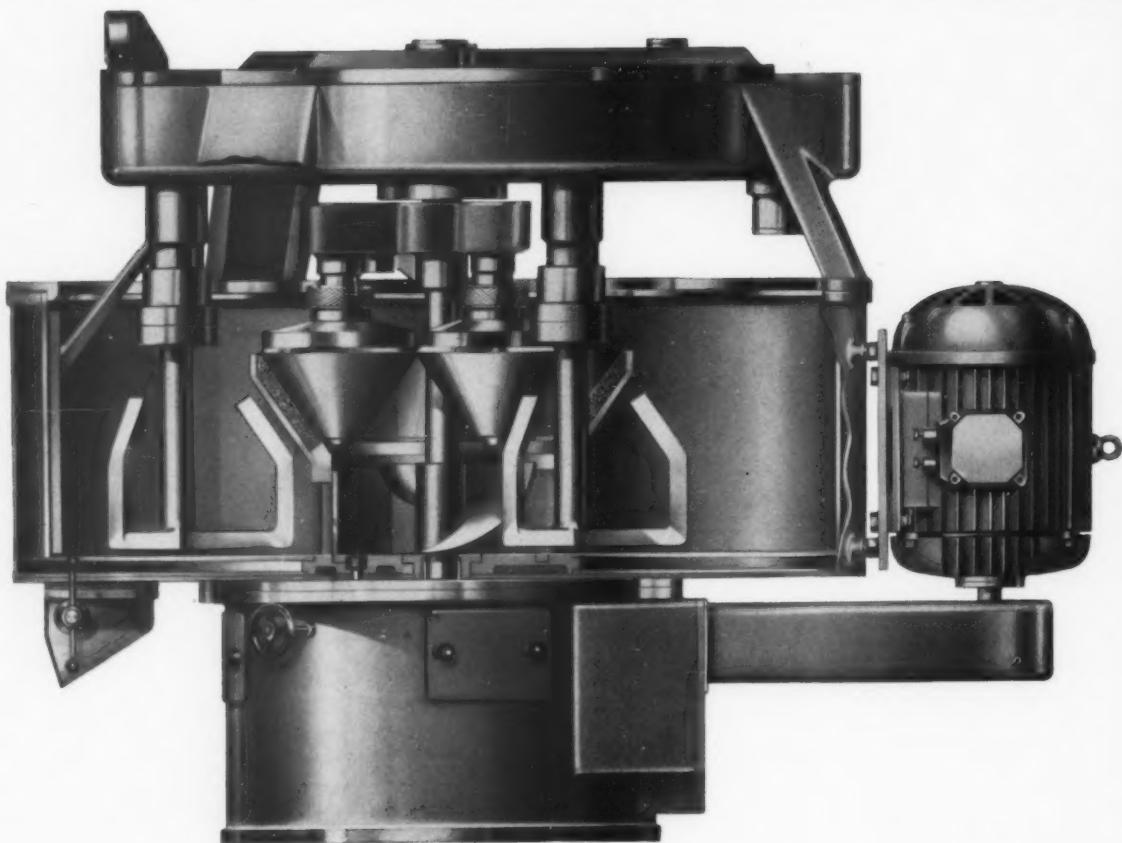
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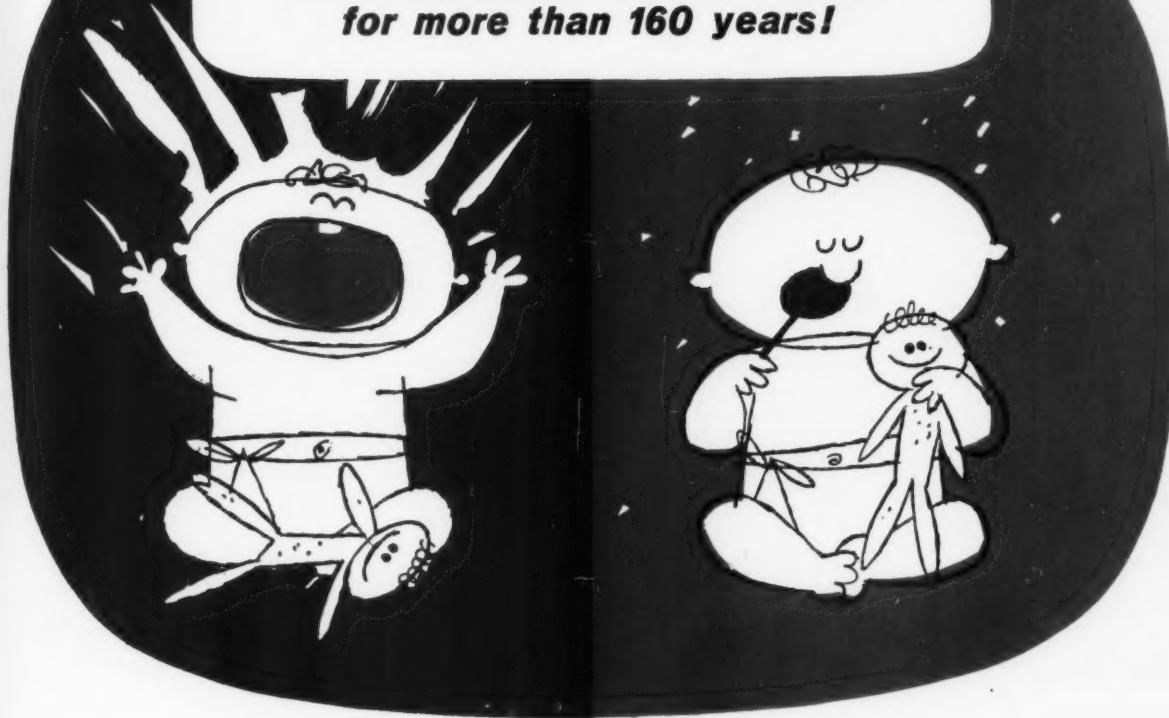
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Type of Confection in which Flavor  
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## **SERVING 77 YEARS**

... a fine line of quality chocolate coatings, confectioners coatings, liquors and cocoa powders for the confectionery industry.

Look for this trademark when you attend the '61 convention of the National Confectioners Association in Chicago, June 11-15. You'll see it at Booth 43 at the Annual Confectionery Industries' Exposition in the Conrad Hilton. We hope to meet you there.

**WILBUR CHOCOLATE CO.**

*LITITZ, PENNSYLVANIA*

# BURNS complete equipment for the CHOCOLATE and CONFECTIONERY industries

## FROM ONE SOURCE



For many years, Jabez Burns has specialized in the design, manufacture and installation of cocoa bean cleaning, roasting, and handling equipment, as well as nut processing machinery.



Now, the Burns line is supplemented by equipment manufactured by our subsidiaries, B. F. Gump Co. and Tempo-Vane Manufacturing Co.—including feeding, blending, grinding, sifting, weighing and packaging equipment.



In addition, Jabez Burns is the exclusive sales representative in the United States for several of the best known firms of other countries:



BAKER PERKINS (EXPORTS) LTD. of London, England. Well-known manufacturers of chocolate processing machinery and confectionery equipment such as: cocoa liquor mills, refiners, starch plants, coaters, sugar cookers and fondant plants.



A. SAVY, JEANJEAN & CIE of Courbevoie, France. Leading suppliers of automatic chocolate molding plants and other equipment for the chocolate and confectionery industries.

N. V. VORMENFABRIEK of Tilburg, Holland. Designers and manufacturers of all types of quality chocolate molds.

## PLUS COMPLETE SERVICE

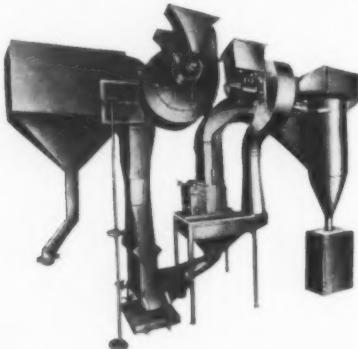
Jabez Burns specializes in completely engineered projects—including plant layout and installation and automatic control systems. You are invited to call on Burns for experienced, practical help on any problem, from a minor plant improvement or

addition to new plant construction or relocation. For your convenience, Burns has branch offices in Chicago, Dallas and San Francisco. As in our New York headquarters, these offices are staffed by trained sales, installation and service personnel.

Major units in the Burns line of chocolate, nut and confectionery equipment are briefly described on the following pages. Detailed bulletins on all units are available on request.

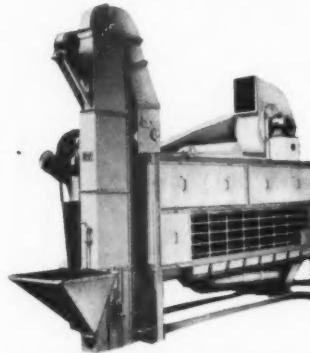
# BURNS

## COCOA and CHOCOLATE equipment



### BURNS RAW COCOA CLEANERS

Two-stage cleaners remove both light and heavy trash . . . protect flavor and fineness . . . prevent undue wear on other processing equipment. Burns design keeps breakage to a minimum. Several sizes available.



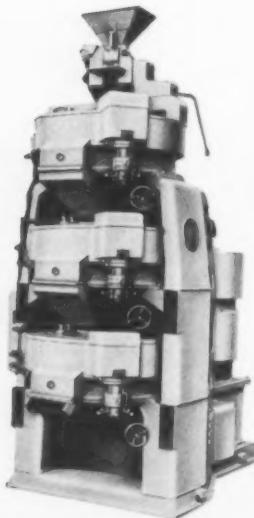
### BURNS CRACKER AND FANNERS

Cracker design assures minimum of fines. Horizontal sieving and cascade-type nib slides combine to produce best possible separation of shell and nib. All adjustments external. Easily cleaned and maintained.



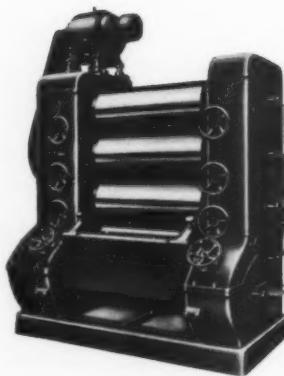
### BURNS CONTINUOUS ROASTERS AND COOLERS

Exclusive Thermal principle of rapid, low-heat roasting assures less fat in shell—puffs shell away from nib, permitting better cracking. Scorching is avoided, and product is top quality and uniform, hour after hour. Proved in the trade, for offering the best in automatic roasting and cooling. Two sizes. Batch roasters also available.



### BAKER PERKINS COCOA LIQUOR MILLS

Exclusive water cooling system delivers a uniform quality liquor, with flavor and aroma virtually unchanged. High degree of fineness is achieved in unusually large capacity for floor space occupied. Two types—both with hard iron grinding discs.



### BAKER PERKINS 5-ROLL REFINERS

Baker Perkins design assures production of superior films. Rolls are held rigidly in position, yet are quickly and accurately adjusted . . . efficient water cooling system maintains constant temperature over length of rolls. Also feature convenient adjustments and rugged construction.

**ALSO:** Elevators and Conveyors, Collectors, Bin Storage and Blending Systems, Ducting and Wetting Drums, Gump Bar-Nun Rotary Sifters, Edtbauer-Duplex Automatic Net Weighers.

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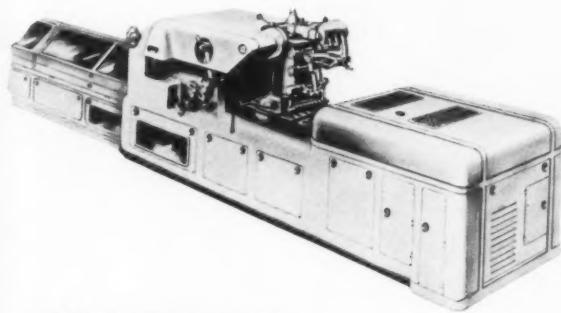
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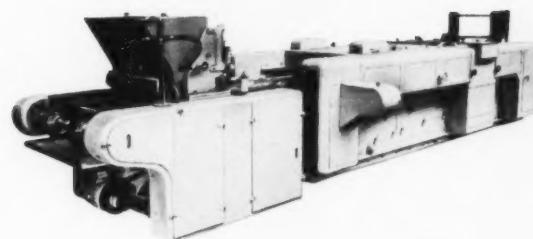
# BURNS

## CONFECTIONERY equipment



### SAVY AUTOMOLDAS

World famous, tailor-made molding plants for solid chocolate, cream filled and hollow goods. Clean, dependable, automatic. Plants are designed to fit into your specific needs with regard to capacity and available space.



### BAKER PERKINS MASTER STARCH PLANTS

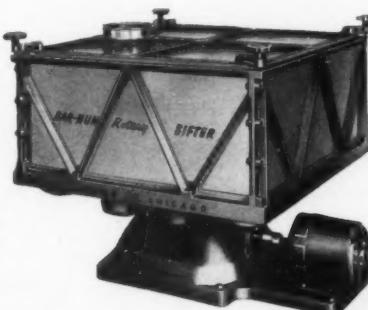
Proven design, for rapid, high quality production with low maintenance and economical operation. Controls are conveniently located. Rugged construction; streamlined appearance. Available with a variety of depositor and pump bar accessories.



Also available: Sollich Circulation Tempering Machine, for use with any existing Coater.

### BAR-NUN ROTARY SIFTERS

Accuracy of separations . . . large capacity for floor space occupied . . . and availability of "sanitary code" construction make Gump Bar-Nun Sifters especially efficient for conditioning starch and sifting sugar, sifting cocoa powder, grading nutmeats, nonpareils and other products. Wide range of models and sizes.



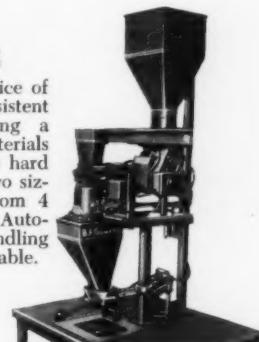
**ALSO:** Continuous Tempering Machines, Batch Tempering and Melting Kettles, Conches, Pumping Systems, Continuous Fondant Plants, Dovo Depositors, Crystallizing Plants, Sugar Dissolvers.

### SAVY/SOLLICH VIBRATING SIEVES

For end of pipe line installation, to remove tramp material from chocolate prior to enrobing or depositing.

### VORMENFABRIEK MOLDS

These quality molds are known for improving the appearance of the goods, for reducing waste and breakage, and for longer mold life. For fully automatic, semi-automatic or hand operations—for coatings, bars, shell goods, solid and hollow novelties.



### GUMPCO NET WEIGHERS

Available with a choice of feeds, to assure consistent accuracy in weighing a wide range of materials from fine powders to hard candies and nuts. Two sizes, for discharges from 4 ounces to 5 pounds. Automatic bag or can handling equipment also available.

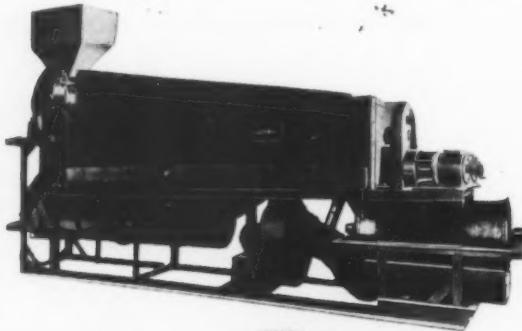
# BURNS

## NUT PROCESSING equipment



### BURNS BATCH ROASTERS

Thermalo's low temperature, rapid velocity heat delivers evenly developed, clean roasts, batch after batch. Automatic controls available; also cooling equipment to fit the capacity of the roaster. Several sizes, for shelled or in-the-shell nuts.

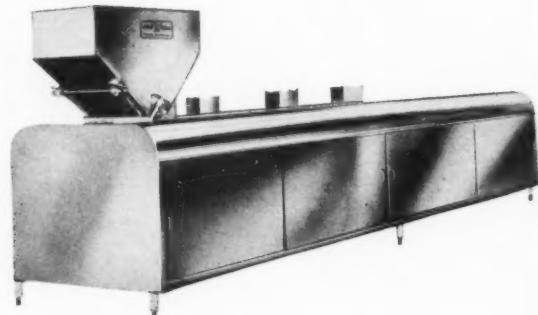


### BURNS PEANUT BUTTER MILLS

Eliminate double stage grinding and special homogenizing . . . give uniformly smooth butter in a single grind. Proved time and money savers. Available with the mill: circulating pumps, metering units for stabilizing agents, Gump Draver Feeders for salt or sugar additives, sanitary piping.



**ALSO:** Salting and Cooling Tables, Picking Tables, Elevators and Conveyors, Collectors, Gump Bar-Nun Rotary Sifters, Gumpco Net Weighers.

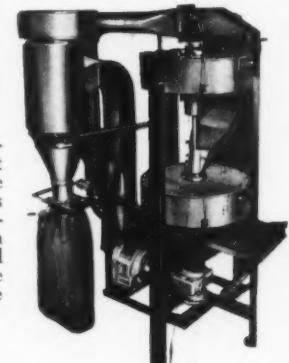


### BURNS CONTINUOUS FRY-O-MATICS

Continuous oil nut roasters and coolers that set entirely new standards in quality control—in dependable, automatic operation—in sanitation. Also effect important savings in labor, oil consumption, cleaning and maintenance costs. Manufactured in several sizes, for oil roasting nuts of any kind.

### BURNS CONTINUOUS ROASTERS AND COOLERS

Unique Thermalo roasting principle provides top quality control and production efficiency. Roasts are clean and uniform, with improved blanching. Feeding, roasting, cooling and discharge are all automatic, with simple controls. Only occasional supervision required, and maintenance is minimum. Capacities from 1800 to 7500 pounds per hour.



### BURNS BLANCHERS AND CLEANERS

Important aids in the production of superior peanut butter of top appearance and low speck count. Burns Blanchers (shown) efficiently remove skins with minimum waste. Blanched Nut Cleaners then remove other trash and stray loose skins.

IN CHICAGO  
B. F. Gump Co.  
1325 S. Cicero Avenue  
Chicago 50, Illinois

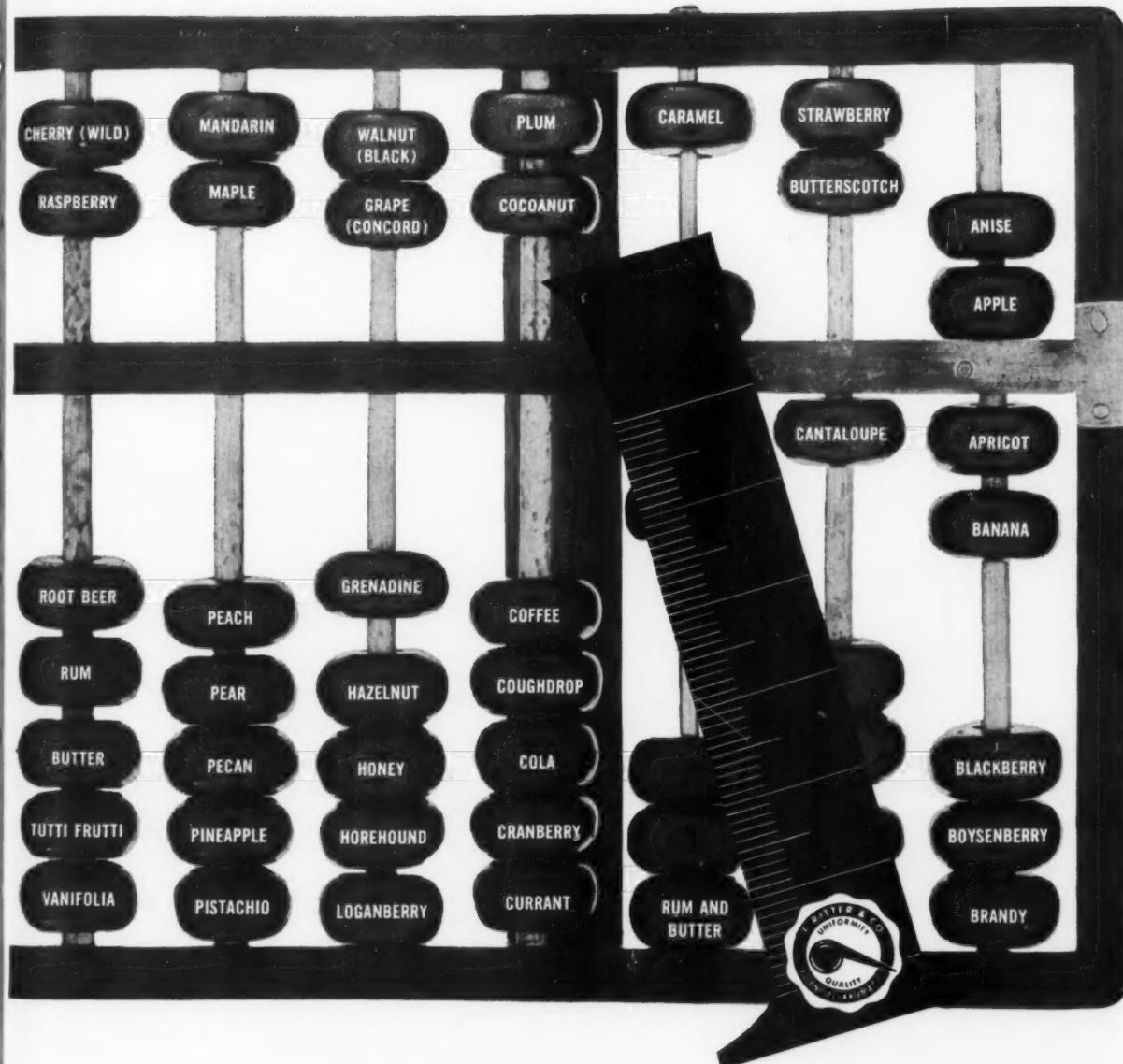
JABEZ **BURNS** AND SONS, INC.  
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BAUERMEISTER  
**MASSE - CLEANER Z-12**

OFFERS:

- RANGE OF PARTICLE SIZE REMOVAL
- CONTINUOUS OPERATION
- HIGH OUTPUT
- COMPACT AND EASY TO CLEAN
- NO LABOR REQUIRED — MINIMUM MAINTENANCE

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*Only the finest bananas compare*



*flavor by Webb*

Banana is one of the delicious, synthetic specialty flavors created by Webb. Whether you need the spray-dried form, or a specific liquid grade, Webb has the answer for your application. And no matter which form you use—in any of the many Webb specialty and standard flavors—you get consistently fine flavor. For samples or information, call or write Webb. Food flavor specialists for over 50 years.



**R. D. WEBB & CO., INC.**

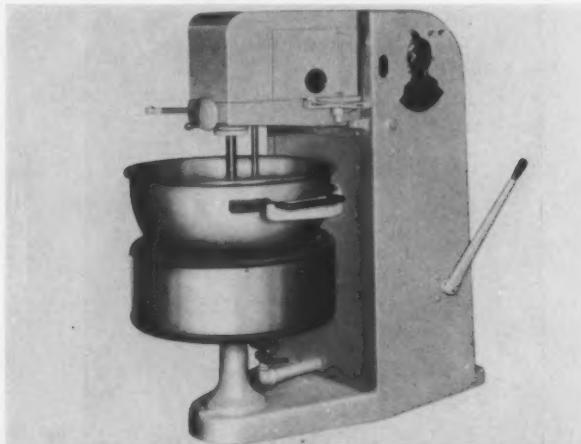
STIMPSON AVENUE AND STILES STREET, LINDEN, NEW JERSEY

# MAKE BETTER CANDIES AND SAVE

Solid investments that pay for themselves in a couple of years or less—that's what confectioners say about Savage Bros Co. money-saving machines. Solid, because they can produce the finest quality candy even in round-the-clock operations proving their outstanding durability. Solid, because they are quality manufactured to guarantee you many years of the ut-

most satisfaction in performance.

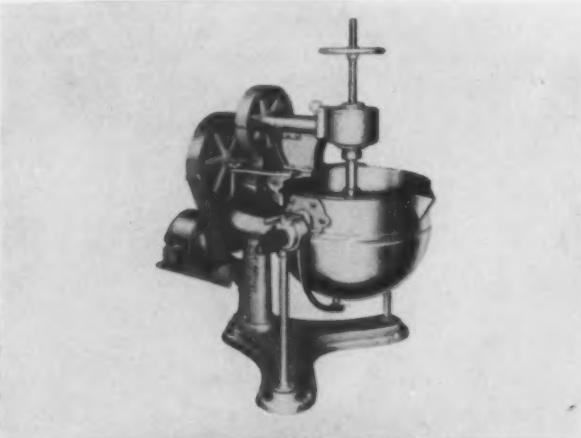
When you require equipment to cook, mix, beat, cool, size or cut, let Savage Bros. Co. show you how to lower your cost through the efficiency and durability of Savage Bros. Co. machines.



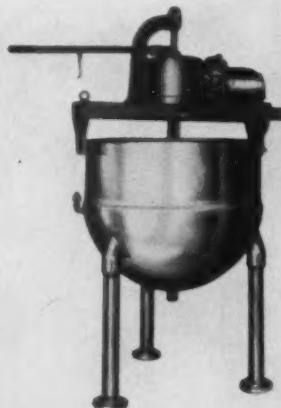
**FIRE MIXER**—Model S-48—Thermostatic gas control. Variable speed. Single or double action agitator. Kettle size 24" diameter by 12½" or 16" deep. Cook and mix candy batches to a predetermined degree.



**FIRE MIXER**—Model S-3 or S-2—Original break-back feature. Manual gas control. One speed. Single or double action agitator. Model S-3 kettle 24" diameter, 12½" or 16" deep. Model S-2 kettle 22" diameter, 12" deep.



**Savage Tilting Mixer**—Model F-6—For caramel, fudge, nougat and cocoanut batches—Sizes: 50 gal. Stainless; 25, 35 and 50 gal. Copper Steam Jacketed Kettle. Double Action Agitator. Bevel Gears enclosed with oil seal. Direct motor drive with V belts for quiet operation.



**SAVAGE MIXING KETTLE**, Model C-3. For gum drops and other gum candies. Sizes 30 gallon to 250 gallon. Stainless steel as illustrated or copper steam jacketed kettle. For 100 pounds or 125 pounds working steam pressure. Double action agitated. Direct motor drive with gear head motor.



**SAVAGE**  
2638 GLADYS AVE.

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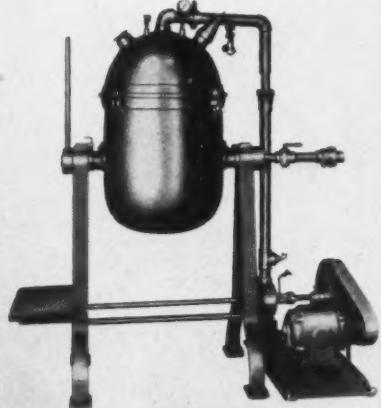
# WITH SAVAGE BROS. MACHINES

Plant after plant is saving with Savage Bros. Co. The probabilities are you can too.

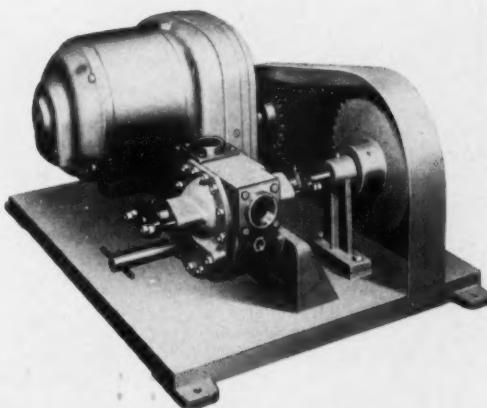
The 8 machines illustrated below are but a few of the many heralded confectioners. REMEMBER—the leading name in confectionery equipment—it's SAVAGE BROS. CO.

*Plus Maximum Durability*

*And Overall Performance*



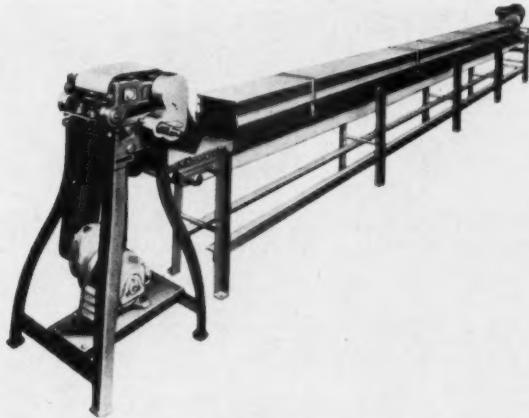
CREAM VACUUM COOLER—Maximum production when installed between two Cream Beaters. Eliminates beater cooling time. Vacuum suction of batch from kettle. Handles 150 lb. batch hand roll cream or 300 lbs. cast cream.



CHOCOLATE PUMP—Cast iron steam jacket head. Perfect for pumping chocolate from melting kettle to enrober. Manufactured with 2" or 3" intake and discharge.



Savage Revolving Pan—Standard size 38" dia. 33" deep 24" opening. Pan constructed of Copper or Stainless Steel either plain or with bumped in ribs. Fabricated steel stand. Gear head motor and roller chain drive enclosed. Heavy Duty Precision Roller Bearings.



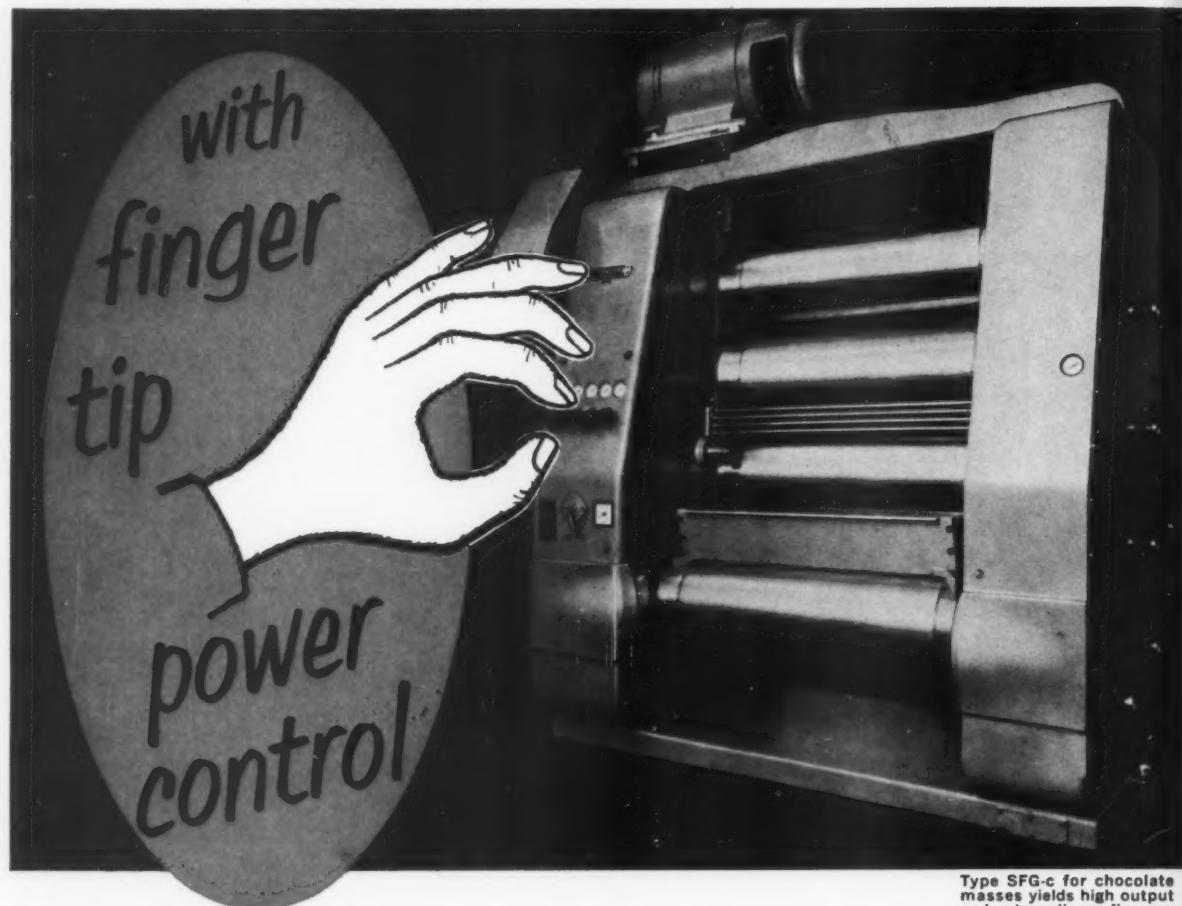
SAVAGE (BRACH) CONTINUOUS CANDY CUTTER—For cutting  $\frac{3}{8}$ ",  $\frac{3}{4}$ " and  $1\frac{1}{2}$ " lengths and  $\frac{3}{4}$ " waffle. Two speeds. Motor drive. Cooling conveyor 20' long.

**BROS. CO.**  
**CHICAGO, ILLINOIS**



# BUHLER

## high capacity **FIVE ROLL MILL**



Type SFG-c for chocolate masses yields high output and extraordinary fineness in one passage through mill.

**NEW hydraulic system provides  
easy regulation • higher pressures • absolute pressure stability**

**Constant Roll Pressures** — Once pressure is set, rolls never need readjustment.

**Hydraulic Scraper Control** — Improved scraper blade readjusts automatically to keep pressure and angle uniform. Wear on blade is minimized. Output fluctuations are eliminated.

**Rolls Always Parallel** — Single switch releases

and re-engages rolls. Exact service pressures are automatically resumed along entire length of rolls. Time saved in cleaning enables one operator to attend several mills.

**Buhler Rolls** — These high quality rolls are world famous for their excellent grip and resistance to wear.

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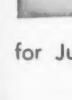
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# CANDY WITH S.A.\* SELLS FASTER... LASTS LONGER

SORBO® (Atlas sorbitol solution) gives marshmallows, fudge, and many other candies longer shelf life, improved texture and better appearance. By holding the desired moisture in the candy, it slows drying out and prevents the formation of fog inside transparent packages. It modifies sugar crystallization to retard hardening. All this adds up to faster Shelf Action—which explains why Atlas Sorbo appears in the ingredient lists of more and more popular candies.

Sorbo Added for Shopper Appeal.

Be sure the candy you buy has  
\*Sorbo Added for Shopper Appeal

FOOD INDUSTRY DEPT., ATLAS POWDER COMPANY, WILMINGTON 99, DELAWARE

# FOR **EVERY** CONFECTION THERE'S A FLAVOR THAT IS **BEST!**

CARAMELS-TOFFEES



HARD CANDIES



GUMS-JELLIES



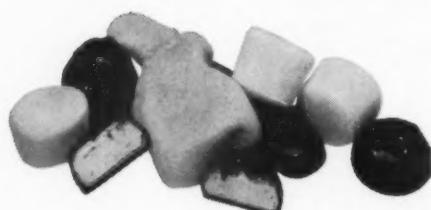
PANNED GOODS



CREAM FONDANTS



MARSHMALLOWS



CANDY SUPERINTENDENTS and our own flavor specialists have worked cooperatively for years in a continuing effort to develop flavors ideally suited to the economical production of each type of confection. Our current price list charts these hundreds of available flavors in a manner that simplifies their selection beyond any possibility of error. Why not write for your copy of this useful catalog . . . NOW!



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THE NESTLÉ COMPANY, INC.  
WHITE PLAINS, N. Y.

# NO MORE OF THAT!



We've had a real problem: orders have been coming in so thick and fast that, up until now, it's been almost an impossible task to fill them all for on-time delivery. But no more of that! We've just completed installation of additional equipment — the most modern of its kind — for increased production facilities and stepped-up delivery! We're grateful for your patience and patronage and this expansion program is our way of expressing appreciation to you!



*Ask the man from* **BLUMENTHAL BROS. CHOCOLATE CO.**

MARGARET & JAMES STREET • PHILADELPHIA 37, PA.

*Manufacturers of quality cocoa powder, chocolate liquors and chocolate coatings*

Penick & Ford Penick & Ford

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*For the finest Hard Candy, use Penford Low D.E. Corn Syrup*



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*For the finest Cream Centers, use Veltose 165 Corn Syrup*

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INTRODUCING THE

**AASTED**

## A FULLY AUTOMATIC CHOCOLATE MOULDING PLANT WHICH YOU CAN AFFORD!

### JUNIOR MOULDING LINE



With ONLY Mould changes, this plant will produce  
Solid Chocolate Articles • Centre-Filled Chocolate • Hollow Chocolate Novelties

This specially designed **AASTED** Junior Moulding Line will enable you to enter this newest and extremely profitable Moulded Candy market.

**THE AASTED JUNIOR MOULDING LINE IS UNIQUE:**

- Because of its unusually LOW price
- Almost any hand made piece can be duplicated on it
- Gives up to 10,000 pounds output in eight hours
- Requires only THREE operators
- Takes only 400 moulds for a complete cycle
- Single line installation . . . only 80 feet long

Other Aasted moulding lines can be custom-made to your requirements with speeds up to 60 moulds per minute for solid chocolate . . . 40 moulds per minute for filled chocolate candy.

**No other moulding line can give you so much profit for so little investment!**

**AASTED CHOCOLATE MACHINE CO.**

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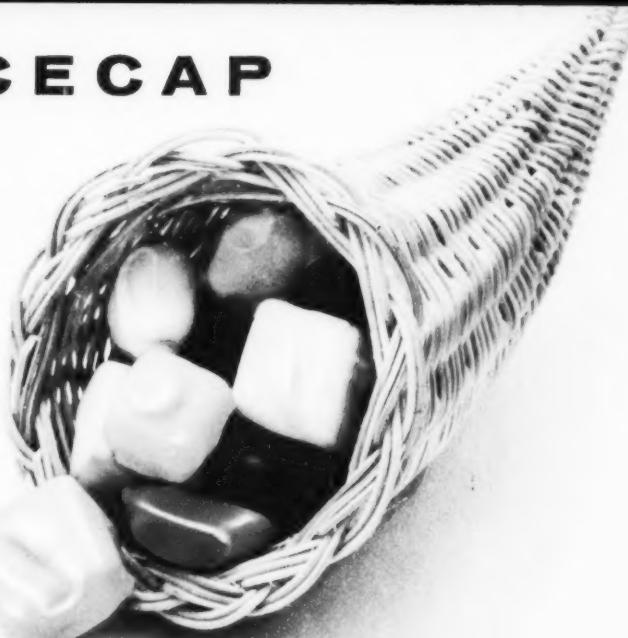
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# NESTLÉ'S ICECAP

for  
plentiful 'n profitable  
candy ideas



Nestlé's Icecap, the  
candy coating that tastes  
as delicious as it looks.  
Create new, really  
different candies with  
this fine complement  
for cream centers,  
tart fruits, nut meats,  
jellies and chips.

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**NESTLÉ'S®**

**THE NESTLÉ COMPANY, INC.**

WHITE PLAINS, N.Y.

Trade Mark Reg.



## When they want lemon, give them full lemon flavor

**This is no place to skimp!** When just an ounce or two of lemon oil can glorify—or ruin—a hundred-pound batch of your candy, why gamble?

Insist on the one and only lemon oil that is always made from California's best lemons. It's guaranteed uniform—full flavor—and packed in tamper-proof containers by the Sunkist Growers—*Exchange Brand Lemon Oil, U.S.P.*

**Sunkist Growers**

Products Sales Department, Ontario, California



LEMON OIL, U.S.P., CALIFORNIA COLD PRESSED

Exchange Brand Lemon Oil  
is distributed in the U.S. by

Dodge & Olcott, Inc.;  
Fritzsche Brothers, Inc.; Ungerer & Cc

June, 1961

Volume XLI—Number 6

# Model Cuts Costs of Candy Plant

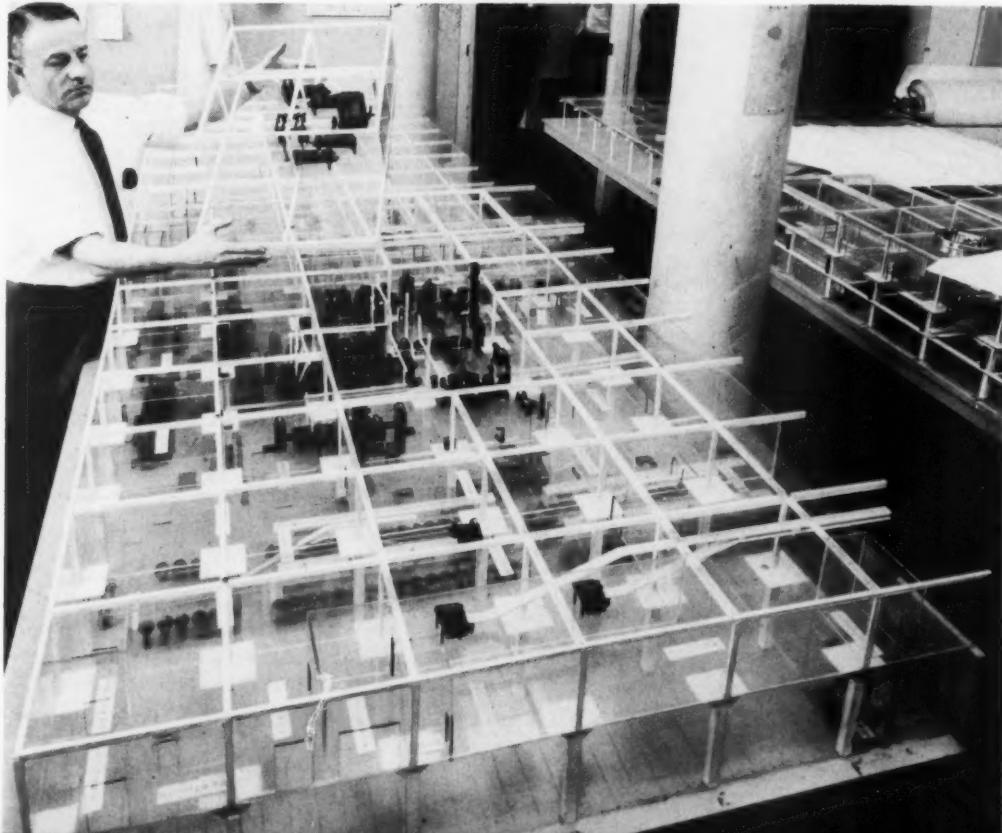
**F**IVE YEARS AGO management of the Walter M. Lowney Company, Montreal, determined that a new factory building was going to be necessary before very long in order for the firm to continue its growth and maintain its competitive position.

As a first step toward the eventual new factory, production executives of Lowney extensively toured

food and pharmaceutical factories in both the U. S. and Europe.

This tour fixed certain principles in their minds. First, after talking to personnel of many firms who had planned moves from an old plant into a new one, the Lowney group learned that every dollar spent in pre-planning saved from five to ten dollars

**The entire plant of the Walter M. Lowney Company was planned with the aid of the company-built "see-through" model. Equipment was "set" in place in the scale model and production flow studied for maximum efficiency. Final positioning was worked out on the model.**





in revising plans, and in structural changes during and after actual construction.

Almost to a man, those who had been in charge of plant layout and design for new factory facilities, reported that they had not given enough time and effort to advance planning and coordinating the various departments and services. Therefore, conflicts in construction, operation and maintenance were not avoided. Very costly revisions in plans and construction resulted, and very often inefficient production operations were created that just could not be changed.

After thoroughly reviewing the various steps that could lead to a final plan for the new factory, the Lowney planning staff—assisted by Victor P. Victor as general consultant for planning and contracting—decided the only way to achieve a really sound basis on which to work and plan for the new production facility was to construct a complete three-dimensional model of the new factory, including scale models of all equipment, machinery and services in place.

#### Model saves time and money

This was a very ambitious project, and was recognized as such at the time. However, in the two years during which the model was under development, construction and assembly (prior to actual factory construction) it became vividly clear that the problems found and errors avoided by use of the scale model have saved the company many times the cost of the model itself.

In addition, the production staff feels they are going to end up with production facilities far superior than what they would have, had they followed the conventional practice of plans and blueprints.

Use of the three-dimensional model not only revealed errors and conflicting structures, but also proved to be extremely helpful in working out the most efficient placement of facilities and services not foreseen during the planning stages.

With the realization that a new factory must be ready for occupancy during 1961 at the latest, work on the 3-D model of the proposed new factory was started during the Spring of 1959. At this stage of planning, the basic decisions of the number of floors, and the shape of the building were yet to be made.

#### Flexibility built into model

Therefore, the first models were built so that they could be arranged on two, three, four or more floors, or arranged all on one floor. The shape varied from square, rectangular and "L". And the models were shifted and juggled until the optimum arrangement for the firm's production was reached.

Factory construction started early this Spring. The scale model was completed, at least as far as design features are concerned, late last Fall. At that time, the basic features of design (such as a partial two-story, and remainder one-story, and nearly square dimensions) were decided to offer the most efficient production layout and work flow. The building site is on a slight slope so that the second story of the building at one point is at grade level.

The first criteria for layout was: what is the most

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efficient size and shape for the various production units, such as the chocolate manufacturing operation, chocolate enrobing operation, and the Oh Henry! bar operation? Each of these basic production operations were considered individually to determine best shape and use of space required.

Then, using the model, the various units were shifted around to find the most efficient arrangement of operations in relation to the dependence of each upon the other, and their relation to the various services required. It was only with the model that all arrangements could be visualized and evaluated on the basis of the many factors involved.

#### Model gives good visibility

The model is made of plexiglass to give complete visibility into all parts of it. Also the structural strength of the material withstands handling and moving that each new revision of floor plan requires. Scaled to size, the ground floor of the model is divided into 7½ inch bays, with pillars in place. (Bays of the building will be 30 ft.) This provides the basic floor layout. The second floor, also has pillars arranged as the finished building will have.

On a scale of  $\frac{1}{4}$ " to the foot, the model offers complete visibility of the interior and provides an overall view of the space for each department.

Scale model machines of all the major processing lines were made and assembled in relation to each other to make complete production units. These complete scale model production units were shifted countless times in the model plant to find the optimum placement.

The most important evidence of the enthusiasm

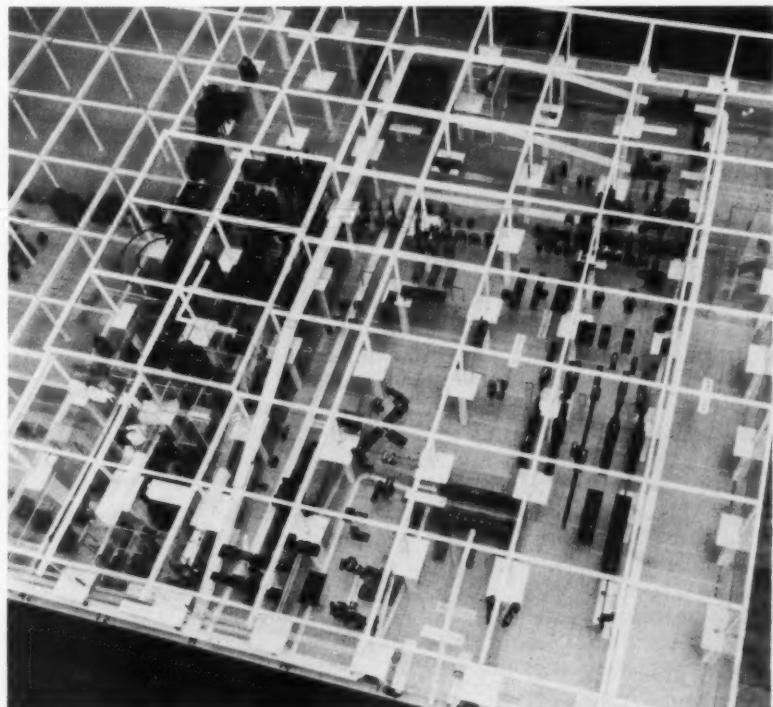
with which the production department views this model is the fact that they will install it in the new building, and keep it up to date. Thus, future work flow changes can be planned visually on the model prior to inception, as can future plant revisions.

One of the most revealing parts of planning with the scale model was in the placement of the piping systems, duct work and conveyor systems. In construction, herein lies the greatest opportunity for expensive errors. Making and installing the numerous piping, duct and conveyor systems in the model entailed a substantial cost in time. However, the opportunity the model gave to test a variety of piping arrangements, and to find problems and conflicts before the installation work in the factory was started, more than offset cost of producing the model piping.

#### Mezzanines are planned economy

Another economy that resulted from the use of the scale model was the planning of mezzanines in various places where their use saved space, and made placing facilities more convenient or economical. From the model, Lowney's planning staff determined washrooms could be placed on mezzanines and be easily and conveniently available from either floor. As a result, there was a reduction in the originally planned number of washrooms with the accompanying reduction in required floor space.

Mezzanines in the pan and chocolate molding departments were also planned with the assistance of the model. Here the planners took advantage of gravity flow of materials, as well as the more convenient placing of certain equipment.



A "bird's eye" view of the model with model processing units in place. Use of the model saved on building costs, enabled firm to plan production flow, and to place all service lines judiciously.

# A dilatometry study of chocolate fat



BY WILLIAM DUCK,

Research Director PMCA,  
Franklin and Marshall College,  
Lancaster, Pa.

**I**F ONE REVIEWS the literature concerning tempering one is struck by the many different procedures used. The temperatures particularly at which chocolate is tempered vary over a wide range. To cite only a few examples: Whymper (1) early recommended that chocolate be tempered by agitating and lowering the temperature very slowly over periods of many hours through a wide interval of temperature above the melting point down into the solidification range. Korf-hage (2) has described the hand tempering operation where the formation of seed crystals takes place at 84° to 85°F.

Mechanical enrobers may operate at temperatures ranging from 84°F., as in a recent description of a German designed enrober (3), to fluctuations of temperatures in poorly controlled enrobers which reach temperatures as high as 93°F. (4).

The possibility of adverse temperature effects on chocolate are well known. The loss of gloss and formation of bloom have always been attributed to chocolate's sensitivity to high temperature, adverse temperature fluctuations or temperature shock. Thus it may well be that chocolate may not be at its optimum at all the tempering temperatures described.

In our 1958 Production Conference Paper (5) we showed evidence of two crystalline forms of cocoa butter. The amount of each present depends on the tempering temperature. This was demonstrated using our viscosity method for measuring temper in the following fashion.

Figure I shows percent solid fat found in a tempering coating, that is, the development of solid seed crystals in the sequence of temperatures 84.2°, 91.4°, 84.2°, 91.4°. The melted chocolate coating at 84.2°F.,

seeded with old stable solid coating, was allowed to temper until the increased viscosity indicated that 4% solid fat was present. Then the coating temperature was raised to 91.4°F. at which the viscosity decrease indicated that 3 of the 4 percent solid fat melted, leaving 1 percent.

The temperature was again lowered to 84.2°F. and the percent solid fat again increased rapidly to 4%. When the temperature was raised to 91.4°F. the second time, there was no melting but the viscosity continued to increase though more slowly. An explanation for this sequence of events: when tempering at 84.2°F., there were two forms of solid fat formed from the old stable solid coating used as a source of seed crystals. When these two forms were warmed to 91.4°F. a low melting form, making up three fourths of the total solid fat, melted. This three fourths had a melting point below 91.4°F. and is

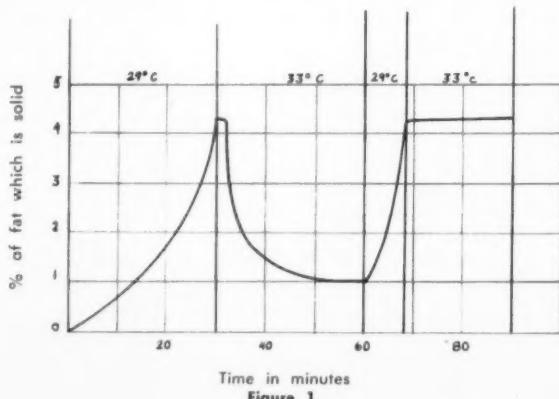


Figure 1.

thus unstable at 91.4°F. The one percent, which remains at 91.4°F., acts as seed when the temperature is again lowered to 84.2°F. The 4% which forms at this time is a high melting form, stable at 91.4°F., and continues to increase at a slow rate at 91.4°F.

The presence of these two crystalline solids ought to be demonstrated by thermal methods such as cooling curves, calorimeter determinations and particularly melting dilations. The presence of such crystalline fractions should show up as inflection points or K points on thermal plots as described by Bailey (7). Nearly all previous work in thermal analysis on cocoa butter has given smooth curves. Only in the recent work by Becker (9) have such inflection points shown up. The melting characteristic of cocoa butter is such that there is a very narrow range of temperatures over which this fat changes from a solid to a liquid. It appears that in the previous dilatometer experiments, because of the narrow softening range and because the temperature increments used were too large, details such as inflection points on these thermal plots were missed.

We have been able to show that there are more details in thermal plots than previously found when the dilatometer method and small temperature increments are used.

A dilatometer consists of a bulb connected to a thin tube, in principle not unlike a thermometer bulb and stem, Figure II. A sample of fat is placed in the bulb and water fills the remaining space in the dilatometer to a level in the stem. When fat is heated it melts and expands. The volume, measured by the water level in the tube, versus the temperature produces a thermal plot. This plot is similar to one for calories required to melt the fat versus temperature from a calorimeter determination.

A 5 gm. sample of cocoa butter, in approximate  $\frac{1}{8}$  inch cubes, is placed in the bulb and the bulb is closed with a metal disk with a rubber disk gasket held tightly. The space around the fat is filled with cold water (previously boiled to expell dissolved air)

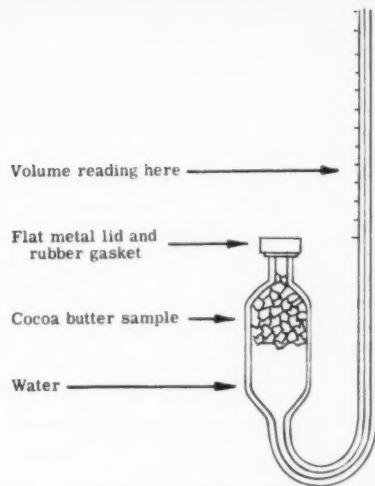


Figure 2. A Dilatometer

by placing the dilatometer upside down with the stem through a rubber stopper of a vacuum filtering flask containing the water. By evacuating the whole assembly, all the air is excluded and when the vacuum line is broken water fills the space around the sample. The evacuation and refilling is repeated until all small air bubbles are excluded. The bulb is placed in a water bath at the lowest temperature to be used in the determination.

The level in the stem, 2 mm inside diameter, is adjusted to some low point by means of a long, fine capillary tube drawn from heated, soft,  $\frac{1}{4}$  inch glass tubing. A scale is provided for the stem by slipping the tube from a 50 ml. burette over the stem and fastening it in place with a one hole rubber stopper over the end of the stem. The instrument can be calibrated and the readings can be converted to ml. volume.

However, since only the inflection points and not absolute volumes were of interest for this work the volumes given are in readings for the instrument. Corrections can be made also for the expansion of

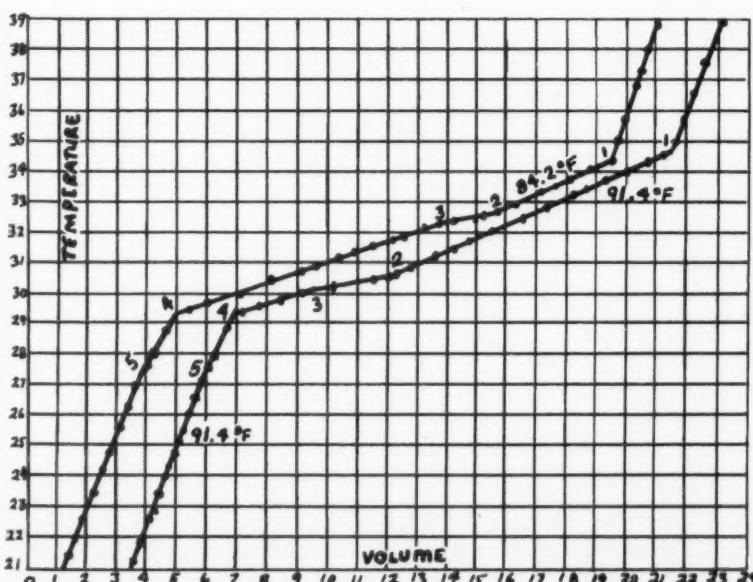


Figure III. Melting dilatometer plots of two samples of cocoa butter. One tempered at 84.2°F (29°C.); the other at 91.4°F. (33°C.)

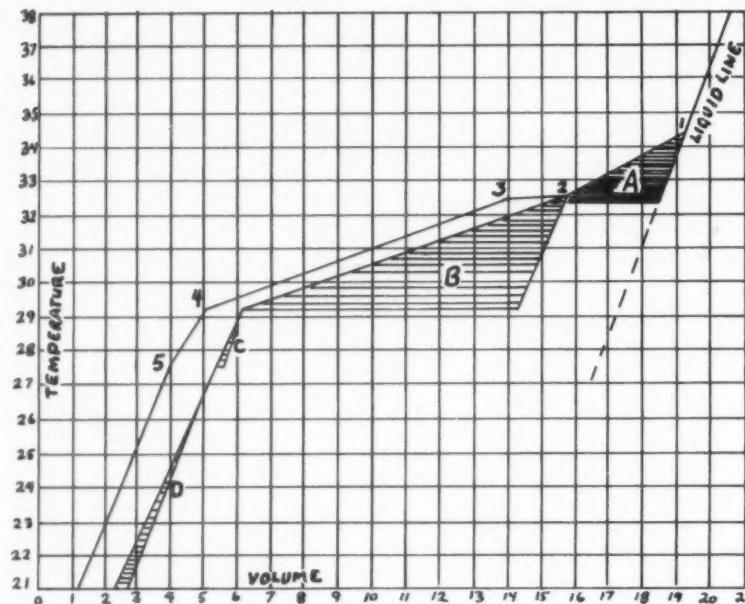


Figure IV. Melting dilation of cocoa butter tempered at 84.2°F. Size and position of triangular areas show melting range and relative amounts of crystal fractions.

the water but this is also unnecessary if only inflection points are desired. Readings were taken at each temperature after the reading became constant.

The first sample was seeded with some old cocoa butter and was stirred at 84.2°F. until it was apparent that there was considerable solid fat present. It was cast and allowed to harden at 40°F. This sample should contain considerable amount of the low melting fraction of Figure I and should resemble chocolate fat in hand-tempered goods.

The second sample was seeded as the first, the solid fat allowed to increase at 84.2°F. and then warmed to 91.4°F. This sample was held for a time at the higher temperature and again cooled to 84.2°F. Stirring was continued at this temperature until there was again considerable solid fat. The fat then was also allowed to harden at 40°. This sample should contain a considerable amount of the higher solid fraction of Figure I and should resemble the chocolate fat in most mechanically enrobed goods.

Figure III shows the dilatometer plots of the two samples using the system of Vaeck (6). Here one can see there are a number of inflection points. These are the points where the direction of the plot changes and are indicated by numbers on the graph. These points have become apparent because of the small, 0.3°C, increments of temperature used.

Previous dilatometer work on cocoa butter by Hoffgaard (13) and Vaeck (6) does not show this detail, but only smooth plots because they used 2°C increments. It is apparent that these two plots of Figure III differ in detail. Thus the previous viscometer results outlined above are confirmed in so far as showing that solid cocoa butter differs in its physical makeup. This physical makeup depends on the temperature at which tempering takes place within the accepted range of tempering temperatures.

Bailey (7) discussed the significance of inflection points, called K points in his book, in dilatometer

plots of many other fats. These points and the lines connecting them were shown to represent crystal fractions of the fats. A more vivid picture of these fractions demonstrated by the dilatometer may be gained by the following method.

In Figure IV is shown the plot of the first sample tempered at 84.2°F. Vaeck and Bailey discussed the calculation of percent liquid and solid fat at a given temperature by drawing a straight, horizontal line through the plot from the solid to the liquid line extensions. The ratio of the lengths of the line to the right and left of the plot is the ratio of liquid to solid fat at the temperature through which the line cuts.

Thus, horizontal lines drawn at intervals from the plot to the liquid reference line from the temperature of the number 1 inflection to number 3 inflection points produces a triangular area A which represents a solid crystal fraction of cocoa butter. The length of the base line represents the amount of the fraction present in the completely solid cocoa butter. The area of the triangle is due not only to the length of the base line but to the solid solution character of mixed triglyceride solids. This governs the slope of the plot.

A similar triangle is drawn from point 2 to 4. This produces Area B which represents a second fraction. Area A and B and their melting ranges are shown to overlap since the line between points 2 and 3 has less slope than the lines connected to it at each end. The lower slope indicates more calories and thus probably more solid melting per degree rise in temperature than would be the case if two fractions were melting instead of one.

The overlapping melting ranges can be explained if comparison is made to the possible three phase, solid solution diagram constructed for the two principle triglyceride components of cocoa butter plus the diolein fraction as a third component and the solidi-

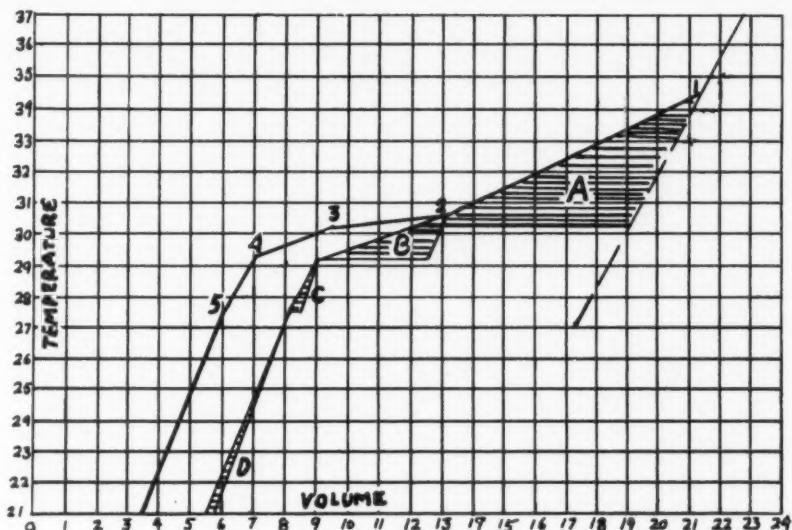
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Figure V. Melting dilation of cocoa butter tempered at 91.4°F. Size and position of triangular areas show melting ranges and relative amounts of crystal fractions.



fication path followed on the diagram. Such phase diagrams are discussed by Ricci (8). From Becker's (9) two-component phase diagram there is an indication that the phase system may be a two peritectic, one eutectic solid solution system. The solidification path in such a system or most any possible three-component diagram would first produce one crystalline solid solution fraction. The path would then reach a eutectic curve and there would be a second crystalline material simultaneously forming with the first. This simultaneous crystallization would explain the overlapping of fractions A and B in Figure IV. Drawing similar triangles from the lower temperature inflection points, Figure IV, results in further smaller fractions labeled C and D.

Figure V shows a similar treatment of the plot from the second sample. This sample resulted when the fat was warmed to 91.4°F. while tempering and before casting which would result in only the highest fraction being present as indicated in Figure I. Here one can see that in the solidified fat, from this treatment, fraction A is much larger than before and B much smaller. Thus the viscometer results are further confirmed.

The dilatometer shows two major crystalline fractions A and B which have the same characteristics as the two fractions indicated by viscosity measurements. The high melting range fraction is produced by high temperature tempering and the lower melting fraction by low tempering conditions. Both are produced at temperature higher than 82°F., above which, according to Vaeck (10), only the most stable, beta polymorphic form of crystal can exist. Thus these two fractions are not different polymorphic forms in the sense of Vaeck's work but appear to be related to the phase diagram for cocoa butter. The fact that the amount of these fractions can be produced in various ratios indicates that cocoa butter can easily solidify so that the solid phases are not in

thermodynamic equilibrium. A number of variations of the patterns of Figures IV and V have been observed.

Figures IV and V indicate that the solid fat of chocolates produced by hand tempering at low temperatures possibly differs from that in chocolates produced by higher temperature enrobers. However, no recommendations can be made as to which temperature range should give optimum results. Both methods produce acceptable chocolates. It would thus appear that this may not be as important a source of instability as polymorphism. On the other hand Kleinert's (11) method of warming finished chocolates to produce bloom resistance should produce a pattern such as Figure V with a high A fraction content. The possibility of instability, due to these solid fractions, indicates the importance of continuing development of the phase diagram for cocoa butter. This is being carried out by Becker (9) and Landmann (12). Such a diagram would show the correct ratios of stable crystals which should be found in stable chocolate. The dilatometer, using small temperature increments, should be a valuable tool for this work.

#### Summary

Thermal plots from the melting dilation of cocoa butter show a number of inflection points when small temperature intervals are used to produce the plot. Two major solid crystalline fractions are deduced to exist in solid cocoa butter from the inflection points and lines of these plots. The ratio of these two can be varied by varying the tempering or seeding technique. The fractions appear to be related to solid phases indicated by a phase diagram. The variable ratio of these fractions indicates that solid cocoa butter may easily be produced in a thermodynamically unstable condition which might lead to poor shelf life in chocolate.

# Report of P.M.C.A. Research

BY JAY C. MUSSER, Chairman, Research Committee, P.M.C.A.

Vice President, Manufacturing, Klein Chocolate Company,  
Elizabethtown, Pennsylvania



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**T**HIS IS THE 15th continuous year of the Pennsylvania Manufacturing Confectioners' Association Research Program. The entire story of these years has been one of steady growth and improvement. The results have been in no small part accomplished through the efforts of one man, Mr. C. Rudolph Kroekel. Mr. Kroekel, known affectionately to all of us as Rudy, was chairman of this program eleven of the fifteen years of its existence. He was active on the committee until his death on May 23, 1960.

It was under Mr. Kroekel's guidance and leadership that this Research Program started and grew. While there were many men who have contributed greatly to the success of the program, I am certain that no one will question the importance of the personal leadership which Rudy Kroekel supplied to this program all through the years until his death. For these reasons, the Research Committee wishes to note the loss of one of its most effective members. The Committee hopes that the memory of Mr. Kroekel will serve to continually inspire us all to do our best in the work which he helped to pioneer and develop.

The P.M.C.A. Research Program is divided into two areas; one, the study of general line confectionery problems; and two, the study of chocolate problems. The problem under investigation in the confectionery field during the past year is the texture and chewability of various types of candy. The chocolate problem currently under study is a continuation of the fat crystallization work aimed at the elimination of fat bloom. Mr. William Duck will present a paper following this which will discuss in more detail the technical problems of the fat crystallization study.

The current year has been one of tremendous progress. Last fall we were able to expand our laboratory staff with the addition of Paul Martin as Laboratory Assistant. At the same time, Mr. Duck was promoted to Research Director. This step, which has been planned for some time, will allow for the additional administrative responsibilities which have developed as our program has grown. At the same time it will permit increased laboratory work.

On April 11, 1961, the United States Patent Office issued to our Research Director, William Duck, Patent No. 2,979,407, the title of this patent is "Bloom Inhibited Chocolate and the Method of Producing the Same". This patent was issued on an application filed several years ago, on work which resulted from studies made here in the P.M.C.A. Research Program.

I think it is very important that I make several things clear, at this point, about this patent. While

we have every reason to believe that this patent is an important step in the solution of the chocolate fat bloom problem, we do not want anyone to feel that this is the end-all of this age old problem.

The second point which I should like to make clear, concerns the use of this patent. Please realize that this patent was issued only two weeks ago. At the present time, the final details for use of this patent have not been established by the P.M.C.A. Research and Executive groups. This will be completed in the very near future, and as soon as it is done, details will be announced. We know that everyone is vitally interested in this technical advance, but until the final arrangements are completed, we will be unable to give you detailed information.

I am certain everyone realizes that the basic philosophy of the P.M.C.A. Research Program has always been to benefit the entire chocolate and confectionery industries. At the same time, however, we must be realistic and use such benefits as we can in the application of this patent for the people without whose support this program could never have existed.

In connection with the matter of support membership in the P.M.C.A. Research Program, I should like to repeat again that the program is open to participation for any company in the confectionery industry, or its allied supply industries in the United States. Anyone who is interested in joining our program can secure complete information from me, William Duck, or any of the other members of the Committee.

At the same time, I should like to point out the availability of P.M.C.A. Abstract Service. This Service edited by our Research Director, covers all of the literature of chocolate and confectionery published in the world. The Abstract booklet is published four times a year, and is available to anyone at a subscription rate of \$20.00 a year. Anyone interested in this Service can get information from the Committee members or William Duck.

The P.M.C.A. Research Committee has been fortunate to receive from the Otto Hansel Company of Hanover, Germany, a specially built vacuum kettle. This kettle will be capable of manufacturing all types of candy. This gift to our research work is most sincerely appreciated. The Committee hopes that this gesture on the part of our German friends may be the beginning of a long association of cooperation between our Research Program and equipment manufacturers. In addition, the Committee wishes to thank the American Association of Candy Technologists for the contribution of \$1,000 for support of our program.



BY DR. ALBRECHT FINCKE

German National Confectioners Association, Institute of Food Chemistry, Cologne, Germany

**I**N MY REPORT I WANT to talk to you about research on viscosity measurements with chocolates, which has been done in recent years in Europe.

As it is known, melted chocolate does not belong to the Newtonian substances, whose flow behavior is clearly marked by the viscosity coefficient:

$$\eta = \frac{\tau}{D} = \frac{\text{shearing stress}}{\text{rate of shear}}$$

It rather belongs to the structural viscous substances among which the value  $\eta$  itself depends on the applied shearing stress, respective to the rate of shear. Therefore melted chocolate has within a wide reach for each shearing stress and rate of shear another value for  $\eta$ . Furthermore it has been assumed that melted chocolate acts like a Bingham body (1, 2). The flow equation of a Bingham body i.e. the connection between shearing stress and rate of shear

$$\eta_B = \frac{\tau - \tau_0}{D_N}$$

is possible to represent by a straight line that does not pass through the origin of a rate of shear—shearing stress—coordinate system, but intersects the stress axis at a definite shearing stress value (Fig. 1). This intersection is the yield value of the substances, i.e. the minimum force in order to evoke a flow. Exact analysis has resulted in the fact that the Bingham-law reproduces only very imperfectly the flow behavior of melted chocolates.

Actually there is no linear relation between shearing stress and rate of shear above the yield value, but a more or less bent curve (Fig. 2). The curvature of the flow curve is actually a property of the material and not, as it was assumed for some time, an outcome of imperfect technique of measurements (3, 7). The Bingham equation applies only for a small part of



Fig. 1. Flow diagram of the Bingham body

# Calculating chocolate viscosity for pumping through lines

the flow curve therefore, but not for the whole flow curve.

In order to arrive at this knowledge, which can be taken for sure now, wearisome research and special techniques were required (4, 7). I can't deal with these in the scope of this paper. However, the hope had to be given up to be in a position to describe completely and correctly the flow behavior of chocolates through the Bingham equation by means of only two constants (that is to say the intersection of a straight line with the stress axis and the slope of the straight line).

In 1958 E. H. Steiner published an essay (8), in which he called attention to N. Casson's stated flow equation. This formula was deduced by N. Casson based on theoretical considerations for suspensions (e.g. printing ink) (9). E. H. Steiner had checked the validity of this equation with five chocolate samples. Also he had specified an approximate formula for practically always coming across the case that: the radius ratio of the inner and outer cylinder of a rotational viscosimeter  $\frac{r_1}{r_2}$  from 1 declines remarkably ( $r_1$  = radius of the inner cylinder;  $r_2$  = radius of the outer cylinder).

Like the Bingham equation the Casson equation contains besides  $D$  and  $\tau$ , which have to be measured, only two material constants,  $K_0$  and  $K_1$ , values which depend on the properties of the suspensions. On plotting graphically the values  $(1 + a) \sqrt{D_N}$  against  $(1 + a) \sqrt{\tau}$ , a straight line (Fig. 3) results. This line intersects the stress axis in the point  $2 K_0$  and whose slope is given by  $K_1$  ( $a = \frac{r_1}{r_2}$ ).  $K_0^2$  is equal to the yield value of the substance,  $K_1^2$  is equivalent to the viscosity at a very high rate of shear.  $K_0^2$  is

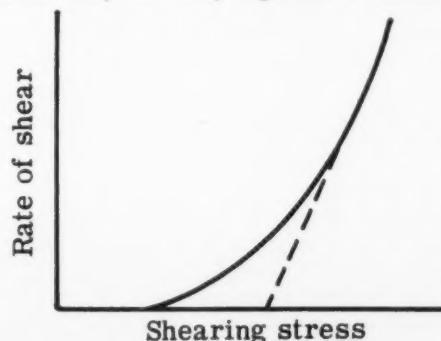


Fig. 2. Flow diagram of chocolate



$$\begin{aligned}
 a &= \frac{r_1}{r_2} \\
 \tau &= \text{shearing stress [dyn/cm}^2\text{]} \\
 D_N &= \text{apparent rate of shear [sec}^{-1}\text{]}
 \end{aligned}$$

Fig. 3. Flow diagram of a Casson body

named as "Casson yield value" and  $K_1^2$  as "Casson viscosity" (Fig. 3).

Casson equation for rotational viscosimeter according to E. H. Steiner:

$$\begin{aligned}
 D_N &= \frac{1}{K_1^2} \left( \sqrt{\tau} - \frac{2K_0}{(1 + a)} \right) \\
 D_N &= \text{apparent rate of shear [sec}^{-1}\text{]} \\
 &= \text{shearing stress [dyn/cm}^2\text{]} \\
 K_1^2 &= \text{Casson viscosity (Poise)} \\
 K_0^2 &= \text{Casson yield value [dyn/cm}^2\text{]} \\
 a &= \frac{\text{radius (cm) of the inner cylinder}}{\text{radius (cm) of the outer cylinder}}
 \end{aligned}$$

The difference to the representation of straight line flow of a Bingham body consists really only in the fact, that at the Bingham body the shearing stress values are plotted direct against the corresponding rates of shear. Whereas at the Casson body the square roots from shearing stress and rate of shear are plotted.

The Casson equation contains beside  $K_1^2$  (Casson viscosity) and  $K_0^2$  (yield value) only the two values  $\tau$  (shearing stress) and  $D$  (rate of shear). At a rotational viscosimeter  $D$  (rate of shear) can be easily calculated from the number of revolutions of the revolving cylinder and its distance to the stationary cylinder.  $\tau$  (shearing stress) results from the force, which is necessary to maintain the respective rate of shear against the viscous resistance of the substance. Furthermore the dimension of the cylinder's area has to be taken into consideration. The shearing stress is usually measured by the torsion of a wire or a spring. Rather complicated theoretical considerations have resulted in the fact that not all rotational viscosimeter fit for measuring the flow behavior of Casson bodies, but the cylinders must have definite measurements. Particularly, the gap between the inner and outer cylinder must not be too big:

The ratio  $\frac{\text{radius of the inner cylinder}}{\text{radius of the outer cylinder}}$  shall be greater than 0.65. This results in the fact that, for instance, the MacMichael-Viscosimeter, especially much applied in the States, does not fit very well, as the gap between both cylinders is too big.

The requirements which have to be set at a viscosi-

meter are summarized by the chemical committee of the OICC in a measuring instruction (10).

The validity of the Casson equation has been examined by our institute on a great number of chocolates. It turned out that the flow behavior of plain chocolates can be described in every case and within a temperature of 30–80° by the Casson equation. Nevertheless, occasional differences are observed with milk chocolates. Basically it has to be noted however, that nowadays it is possible by application of the Casson equation to describe with sufficient precision completely and numerically the flow behavior of melted chocolates by only two numerical values, namely by the Casson viscosity  $K_1^2$  and the Casson yield value  $K_0^2$ .

However, the application of these new findings on technological questions are at the moment still in an early stage. To some extent good successes have already been obtained, but there are still many unsolved problems. Before I come to exact details I would like to stress first of all, that actually it does not give satisfaction for the rheological definition of melted chocolates to measure only one of the two termed values, e.g. only the Casson viscosity. For a complete definition of the flow behavior the determination of the Casson viscosity as well as the determination of the yield value is necessary.

Now I will explain to you (with two examples) the reason that the Casson viscosity as well as the yield value have to be taken into consideration and in what way these two values affect the flow behavior. At a suspension with a high yield value and a low Casson viscosity respective to the yield value, a high minimum force must be applied to cause the flowing at all. Had the minimum force been exceeded then a further slight increase of force leads to a comparatively high flow velocity resulting from the low Casson viscosity. At a suspension with a low yield value and a high viscosity a comparatively small force is sufficient to make the suspension flow. A further slight increase of the shearing stress leads to comparatively small flow velocities resulting from the high Casson viscosity.

A practical application arises e.g. as chocolates, with which decorations shall be made. This chocolate must have such high yield value that it retains its shape and does not flow simultaneously even in melted condition. Also in production of chocolate-coated candies the level of the yield value is of importance. Namely, if the yield value is so high that it cannot be overcome through the force of gravity, the coating cannot flow off freely. We have figured out that coatings shall have suitably a yield value less than 150 [dyn/cm<sup>2</sup>], in order that the coating still can flow freely off under the influence of the force of gravity. On the other hand, the velocity of flowing off is not influenced by the yield value in that case but by the Casson viscosity. However, if the chocolate coated candies get on a shaking table after the coating, completely different conditions have to be considered; then the level of the yield value is no great object anymore (12). Particularly Professor Dr. Heiss has worked on this problem, but his results have not been published.

Up to now there is hardly any systematic research

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to the question, in what way the level of the Casson viscosity is influenced by the composition. An increase of the fat content and a decrease of the water content nearly always results in a decrease of the yield value as well as of the Casson viscosity.

The addition of lecithin has a complicated effect. As it is well known, approximately 4–6% cocoa butter can be saved by adding 0.2 up to 0.3% lecithin, depending upon the fat content of the chocolate. Yield value and viscosity are reduced accordingly. However, the yield value increases again above a definite addition, whereas the viscosity remains constant. In this way one obtains suspensions of a high yield value and respectively small Casson viscosity. As a matter of fact it's not so much that large amounts of lecithin chocolates get more viscous, but only yield value increases and not the Casson viscosity. Hereby in various cases special technological effects have evolved.

In connection with these researches, the question has been examined, how the addition of other emulsifiers affects the flow behavior of chocolate, free of lecithin.

Up to now, all examined emulsifiers (Glycerin-monostearat, Span 60, Tween 60, Saccharosemonostearat, cacao butter monostearat and many other emulsifiers) indicated a considerably slighter effect than lecithin. Partly, they did not cause any decrease of the yield value and the Casson viscosity at all. Slight additions of Tween 60 even result in a remarkable increase of the yield value, whereas the Casson viscosity slightly decreased.

The particular effect of the lecithin on the yield value and the Casson viscosity can be used to decide very quickly by means of a rheological measurement, if the optimum amount of lecithin has been added to a chocolate suspension or not.

First of all, determine the Casson yield value and the Casson viscosity by measuring with a rotational viscosimeter. After that, add to the sample 0.2% soya lecithin and measure again the viscosity and the yield value. If the sample already contains the lecithin optimum, adding 0.2% lecithin will reduce the Casson viscosity only slightly, whereas the Casson yield value remains constant or increases slightly. On the other hand, if the sample does not contain the optimum amount of lecithin, you will find after adding 0.2% lecithin a slightly lower yield value as well as a reduced Casson viscosity.

Of special technological interest is research on the liquefaction effect of different conches. We have found that different types of conches show remarkable differences in this respect. Table 1 gives the results of a series of tests, in which a milk chocolate and a

cream chocolate have been conched in two different conches at the same temperature, each 72 hours. With both chocolates the treatment in conche A resulted in considerably more liquid suspensions. It is obvious that the results of such research can lead to a saving of cocoa butter. Temporarily it is unknown on what facts the variable liquefaction ability of the two conches is based. In the present case a different water content can be eliminated as a reason for in both conches the same loss of water set in.

I would like to deal with a technical application line, which has been examined by us, in cooperation with W. Heinz,\* rather thoroughly and is the calculation of the flow of melted chocolates through pipelines (11).

At the installation of pipelines, the dependence of quantity of conveyed substance from the pipe diameter, from the length of the pipe and from the pump pressure is always of interest. In case of laminar flow it is possible with Newtonian substance to calculate according to the known equation of Hagen–Poiseuille:

$$V = \frac{\pi \cdot R^4 \cdot p}{8 \cdot \eta \cdot l} \quad \begin{aligned} R &= \text{radius of the pipe} \\ l &= \text{length of the pipe} \\ p &= \text{manometric pressure} \\ \eta &= \text{viscosity} \end{aligned}$$

Essential for the validity of this formula is: besides the constant and (from the flow velocity) independent viscosity, the existence of a laminar flow. Non-laminar, turbulent flows arise easily in pipelines when conveying thin, fluid substances, such as water. However, melted chocolates are so viscous, that at common flow velocities in pipelines the appearance of turbulence is not to be worried about. Although during the pumping of chocolate through pipelines turbulence is caused by laminar flow. The Hagen–Poiseuille equation cannot be applied however, as melted chocolates belong to the substances with non-Newtonian flow behavior. Among them the viscosity is no material constant, but depends on the flow velocity.

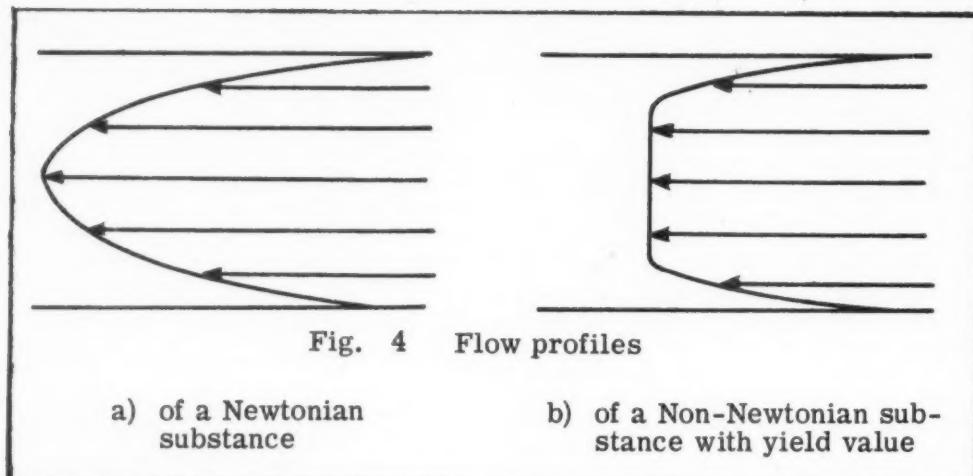
The variation of the flow behavior of a Newtonian and a non-Newtonian substance in a pipe can be distinguished best by considering the profile of the flow in the pipe. Newtonian substances have a parabolic flow profile. However it's different with substances which obtain a yield value as melted chocolate. Here one finds a flattened flow profile. In the latter case the substance moves on through the pipe like a plug, whereas the true flow confines itself only to the layers between the pipe wall and the inner plug. The thickness of the flowing layer between pipe wall and plug depends on the yield value and on the applied pressure (Fig. 4).

It's obvious that in this case the Hagen–Poiseuille law is of no value, as the flow profile cannot be con-

\*Gebr. Haake, Berlin, Germany

Table 1. Liquefaction effect of two various conches

	Conching time (hours)	Conche A		Conche B	
		Yield value [dyn/cm <sup>2</sup> ]	Casson viscosity (Poise)	Yield value [dyn/cm <sup>2</sup> ]	Casson viscosity (Poise)
Cream chocolate	72	322	40.4	560	64.7
Milk chocolate	72	126	43.5	162	78.8



sidered even nearly as a parabola. By combining the Casson equation with a general equation for the flow through pipes W. Heinz arrived at a formula, with which it is possible to calculate the flow of substances and satisfy the Casson law (11). I would like not to trouble you with the deduction of this formula and will tell you only about the final equation. At first sight it looks very complicated, it can however be simplified under certain conditions.

$$V = \frac{\pi \cdot R^3}{K_1^2} \left( \frac{\tau_R}{4} - \frac{4}{7} K_0 \cdot \sqrt{\tau_R} + \frac{K_0^2}{3} - \frac{K_0^8}{7484 \cdot \tau_R^3} \right)$$

$K_1^2$  = Casson viscosity (Poise)

$K_0^2$  = Yield value [ $\text{dyn}/\text{cm}^2$ ]

R = radius of the pipe [cm]

l = length of the pipe [cm]

$\frac{p \cdot R}{2 \cdot l}$  = shearing stress at the wall of the pipe [ $\text{dyn}/\text{cm}^2$ ]

p = manometric pressure [ $\text{dyn}/\text{cm}^2$ ]

V = flow [ $\text{cm}^3/\text{sec}$ ]

This equation contains besides the  $K_1$  and  $K_0$ , which have to be measured, only  $\tau$  (shearing stress on the pipe wall) and R (radius of the pipe). The length of the pipe and the pressure difference between the beginning and the end of the pipeline is included in  $\tau_R$ .  $K_1$  and  $K_0$  are determined by measuring with a rotational viscosimeter.

For simplification, part of the formula in parenthesis in the above equation can be summarized resulting in the following equation

$$V = \frac{\pi \cdot R^2}{K_1^2} \cdot F$$

F is dependent then on  $K_0^2$  and  $\tau_R$ . Now, one can calculate F for various  $K_0^2$ -values and get a plotting, which is published in our mentioned paper (11). Therefore in practice it is sufficient with known  $\tau_R$  and  $K_0^2$  to read the coefficient F from the plot and to set in the equation. By that means the analysis is made considerably easier. For further information, it will be necessary to study our paper (11).

We have examined the validity of this equation in some large scale tests. There have been applied pipes of different lengths (6.3–15 m) and diameters (4.0–5.3 cm), of different temperatures (41–56°C)

and different manometric pressures (0.7–3  $\text{kg}/\text{cm}^2$ ). Through these pipelines have been pumped some kg chocolate each time. The conformity between the values found in these tests and the calculated flow values were marked out in numerous tests. The deviations between the experimentally found and the calculated values generally did not amount to more than approximately 10%. That is completely sufficient for technical calculations. The influence of bent pipes has been specially tested. It turned out however that elbows don't remarkably influence the result, as the flow at the present conditions takes a laminar course even in the bends.

In the last months we could make tests with pipelines up to 100 m length. The conformity between the calculated and the experimentally found values was fairly good even on extreme terms.

Summarizing it can be said, with knowing  $K_1^2$  (Casson viscosity) and  $K_0^2$  (Casson yield value), which can be found easily by means of a rotational viscosimeter, the flow can be relatively easily calculated. Therefore, it is absolutely possible to calculate pipe installations with sufficient precision even in the case of such rheologically complicated substance as melted chocolate. I realize that it is impossible in a brief report to deal entirely understandably and exhaustively with such a difficult field as is the rheology of chocolate. I consider the purpose of my report as accomplished if I should have succeeded to give you a comprehensive picture of the work done in Europe quite recently.

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# A New Chocolate Coating Technique: Its Effect upon Processes of the Future



BY JAMES V. GARDNER,

Manager Confectionery Machinery Div.,  
J. W. Greer Company, Wilmington, Mass.

**W**HAT IS DYNAMIC ABOUT THE Confectionery Industry? What forces are acting upon our Industry? What will we be doing two years from now—five years from now? The answers to these questions and the solutions to these problems can give us a pattern for change and indication of the future.

For instance, manufacturing costs are rising on a general basis. Profits are more difficult to come by. Some major companies are growing rapidly. Large food processing companies are entering the Confectionery Industry and their activity is becoming greater as these new companies realize that their distribution channels lend themselves so well to confectionery. The most clever of these new companies in our industry are searching and finding production methods which operate on a comparatively low direct-cost basis.

It seems reasonable to conclude on the basis of these facts, therefore, that the challenge of producing more for less is becoming the dynamic factor within our industry. The challenge of creating new production techniques has become the motivating force of technologists and production personnel throughout the industry.

These predictions may be a bit too obvious to be startling, but a close examination of the industry and, more personally, of your own individual companies, will show that only a few are acting *with* this trend. Does it not follow that these few companies with intelligent and far-sighted management will survive, while the rest will fail?

It is difficult to draw a parallel between segments of the food industry, but I think we can all learn a bit by looking at the bakery and biscuit and cracker

industries. In bread we have a leading few producing most of the industry's output.

As we all know, three major companies manufacture 70% of the biscuit and cracker production in this country. In both of these industries, a few have survived.

These facts emphasize the importance of the technologist upon the Confectionery Industry. These facts demonstrate the need for mutual advancement through cooperative research. These facts demonstrate the value of the regular technology meetings held throughout the country and especially the value to companies which insist on the attendance of their production and technical personnel. After all, for an industry which shows publicly an average yearly profit of less than 2% on sales or only 6.5% profit on net investment, a contribution to cutting production costs through advanced technology is invaluable.

Several areas of potential improvement are open to every manufacturer. Processes of the future will show marked changes in cooking, center forming, enrobing and packaging. Here, once more, is an obvious conclusion, but how many of you or your companies are working toward these improvements?

The subject for the remainder of this paper will be current advances in enrobing techniques in hopes of bringing the industry up to date on major changes in this area and also a glimpse into the future of enrobing.

A new approach to enrobing and its effect upon processes of the future does not depend upon a specific new machine, nor on plant changes which are expensive or technically involved. The enrobing process of the future requires primarily a change in think-

ing; it requires a desire to produce more for less.

I would like to compare the enrobing line to a band oven operation in the biscuit and cracker industry. For a moment, think of the band oven as a cooling tunnel and think of the dough forming step as the feed end of an enrobing line. The comparison shows two quite similar processes, except that-to date-productivity of the band oven line has far exceeded that of enrobing. Dough can be formed rapidly and easily by the alternation of several forming machines. Baking times are fast-sometimes only a minute and a half. Packaging machines keep pace with the ovens and, therefore, we have production lines running at 70, 150, and up to 250 feet per minute.

I believe that this is a good standard by which to work as we consider the modern enrobing line. The forming of center material in confectionery is improving rapidly. Now, in our industry, it is conceivable to move a machine in line to form 2¢ mint patties and feed directly to a bottom and through the enrober; this can be moved out and an extruder substituted for cream centers. Bars of coconut, fudge, nougat, etc.-can also be extruded by still another machine directly into the same line.

So the center forming area is rapidly becoming comparable to that of a biscuit and cracker operation and is not a limiting factor. Nor is the chocolate coating machine, which can be made to apply coatings at speeds of 50 to 70 feet per minute.

Cooling has held us back for some time, but tremendous advances have been made in this area. The two most recent innovations have been radiant cooling and the modern application of convection principles.

I would like to briefly review the zoned cooler, its scientific basis and practical results. This can best be done by illustrating earlier methods of convection cooling tunnels. The design of old style tunnels was based on the very basic, but very sound theory, that the coldest air in a tunnel should meet the coated product at the discharge end of the tunnel so that the entering goods would not be case hardened. By too rapid crystallization of the fats, it was also believed that some of the fat would crystallize in an unstable form if the initial air temperature was too low. An immediate limiting factor with this approach was that the air from the coils generally could not be much below 58°F. or the goods would become moist upon entering the packing room. This design generally holds cooling times to 10 to 15 minutes, a long way from the fast bake times mentioned earlier.

The zoned coolers have taken the experience gained through our experience with old style tunnels and scientifically related them to the crystallography of chocolate.

To summarize this briefly, I might point to the three zones which are required for the proper cooling of chocolate.

One, as stated above, is the entering zone during which our temperature must be high enough not to "shock" or case harden the coating.

The second, is at the point of the release of latent heat. Here we can use relatively low temperatures.

Third, our temperature must be raised to insure

that the product will not sweat upon discharge from the cooler.

More technically-a cooling system, to be truly efficient, should match the rate of crystallization that takes place during the setting of chocolate. Stable crystals established during the tempering cycle in the chocolate coater are dispersed throughout the coating. During the first stage of cooling, only a few additional crystals form, as most of the cooling is from the removal of sensible heat.

As the center moves down the cooler, the temperature of the liquid cocoa butter drops to the level where it wants to crystallize. The crystals present serve as a sort of leader crystal causing the liquid cocoa butter to rapidly crystallize in the stable  $\beta$  form. During this process, a considerable amount of heat is liberated, about twenty BTU per pound of chocolate containing 30% butter fat.

It now becomes obvious that if this traveling center could pass through a zone of much colder air, the rate of crystallization could progress more rapidly, thereby increasing the efficiency of the cooling cycle. This is now possible through the multi-zone type cooler. Since each eight-foot section is equipped with its own refrigeration and control system, it is possible to drop the temperature during this period of crystallization.

It is a well-known fact that gloss on the surface of hardened chocolate results from the reflection of light from the surface of very fine, closely packed stable  $\beta$  crystals. The  $\beta$  crystal has the characteristic of forming in a nearly horizontal plane which increases the incidence of light. Zone cooling insures the most efficient formulation of  $\beta$  crystals since the cooling air is controlled to meet the demands of the crystallization process. As the center approaches the end of the cooler, crystallization has nearly completed. It is now advisable to raise the temperature in the last few sections of the cooler so that the surface of the cooled chocolate will not be below the dew point of the packing room air. The result of this approach: six minute cooling of chocolate coating; three minute cooling of compound coating.

The zoned cooler has a fin coil in each eight-foot section backed with three fans. The air circulates over the product and returns to the coil. The cooling medium does not lose its efficiency as it formerly did traveling from a coil the entire length of a tunnel and back over the product to the coil.

In actual practice, the temperatures are set with the entering zone at approximately 60°F., working down to a midway point or low temperature point of 38°F.; then the zone temperature rises to approximately 55°F.

The cooling phase of enrobing has advanced considerably in recent years. The final product, however, and the ultimate goal of high speed production of quality enrobed goods depends greatly upon the temper of the coating used. Recognition of this brought about the introduction of the Temper-Meter. A sample of chocolate cooled in a constant temperature bath will give a time-temperature curve from which degree of temper can be determined. The Temper-Meter has mechanized the principle and provides a practical tool for the technologist. A small sample of

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coating is taken from a coater, storage or tempering kettle. The sample is cooled in a constant temperature bath. A thermistor inserted in the coating senses the temperature change which is indicated on a time-temperature chart. The shape of the curve will indicate our degree of temper.

The same device is a practical instrument for insuring ultimate efficiency in zoned cooling. A 100-foot cord attached to the recorder allows a plastic block to be run through the enrober to pick up a coating sample and completely through most cooling tunnels. The point of release of latent heat will be clearly shown on the time-temperature curve drawn by the recorder and the temperature zones of the cooler can be set to most efficiently match the cooling pattern. Although the Temper-Meter is becoming quickly accepted as a basic tool for the well-equipped candy technologist, it was developed as the final step in a research and development program aiming toward a completely automatic tempering coater.

Many articles and papers have been presented on various methods of preparing coatings for enrobing. In actual practice, there are nearly as many methods of tempering as there are candy plants. Proper temper means working with the coating with no unstable crystals and a proper amount of stable crystals to insure a viscosity which is not too heavy for mechanical enrobing. All tempering methods aim toward this, but the most widely used method of approaching this is through a "drip feed" process.

The drip feed approach is based on feeding coating in a virgin or untempered condition at a constant temperature and at a constant rate. This is best done with a thin film type of heat exchanger as provided by either a conditioner or cooling tube.

The untempered coating is fed into one side of the coater tank. Coaters which have divided tanks are designed to operate with the receiving side of the tank at a higher temperature than the second side of the tank. This is arranged so that the virgin coating can be gradually mixed with the major portion of the tempered coating held in the second and larger section of the tank. The receiving portion contains about 30% of the tank capacity. Proper balancing of the coating in the tank insures proper viscosity and temper.

The drip feed system, incorporating the conditioner, and split tank coater has deficiencies.

1. Start-up time can be lengthy.
2. The initial quality of temper depends upon the skill of the operator.

3. Temper can be lost during coffee breaks or lunch periods. To overcome these drawbacks, several tempering attachments have been developed.

I believe a general summary of most existing tempering devices now available is in order:

1. The three-stage principle has been most successfully utilized. Machines with three temperature zones receive coating from a storage tank with a relatively wide temperature range. The first stage reduces the temperature to approximately 89 to 86°F. The second and third stages gradually re-warm the coating to enrobing temperature. The proper crystal structure or degree of temper is established in the final two zones; the coating is

supplied to the enrobing machines at final temper.

The problems or deficiencies of this system come from the variables of temperature and production volume. A technique can be established for a set rate of coating supply at a relatively controlled in-feed temperature; but changes in either rate or supply temperature require adjustments in the temperature of all three zones. A skilled technician is required to make these adjustments and his success is based on trial and error.

2. A second system available depends upon double stream tempering, mixing tempered and untempered coating in equal proportions. This system can provide an adequately tempered coating on a nearly constant basis. Two drawbacks to this device are:

- a. Start-up time is not decreased and, in some cases, increased because of the complicated temperature control system.

- b. When this method is installed as a separate unit, piping and installation with enrobers of American design is not an easy matter.

3. A third system recently tried on this continent depends upon the complete re-temper cycle for all the coating not applied to centers. That is, the temper is destroyed in all coating after it flows over the goods. The temper is completely established in the unused portion of the coating. Of all methods available, we have less experience with this approach than any other. One installation was made in Canada and failed, apparently because the machine could not handle production rates required and because it had been untried on coatings with the percentage of butter fat used in North America.

Granting the limitations of the drip feed method to be long start-up time and potential over-temper during break periods, this method still seems to fit best into the growing requirement for flexibility and volume production.

A new confectionery plant is now being completed by the Lowney Company of Montreal. The managers of this organization are recognized experts in our industry and they have employed outstanding consultants to supplement their own knowledge and experience. The goal of this progressive company has been to come up with an operation which would be so advanced that it would place the Lowney Company in a position of operational leadership for many years to come. The principle of extrusion of bar centers has been thoroughly reviewed. For laboratory work only, extruders of several types were purchased and reviewed until the right machine and proper formulation were found. Many types of equipment both from Europe and the United States were studied. Visits to plants throughout the United States and Europe brought Lowney personnel up to date on the most advanced production techniques available.

Lowney manufactures its own coating. Enrobing in their new plant will consist basically of coating storage in two tanks of 2,100 lbs. capacity which are held constantly full at approximately 112°F. From these tanks, the coating will pass through two 4,000 lb. cooling tubes or thin film heat exchangers and

## PMCA Conferees



Jim Meagher, The Nestle Company, and Jim Allured, The Manufacturing Confectioner Magazine.



Bill Gerfinkle, J. O. Whitten Company and Clyde Sternberger, Blumenthal Brothers Chocolate Company



Harry Wilson and Ed Maeder of Fred Sanders, with Norman Bruce, (center) Merckens Chocolate Company

drip feed from these tubes to six coating lines. The coaters will have split tank construction and will receive milk coatings at approximately 87°F. and dark at 90°F. Recirculating piping lines will supply coating from both tubes to all six coaters. Six 88-foot multi-zone coolers will be used.

Lowney was the first company to purchase a Temper-Meter and now a device is being developed which will incorporate the Temper-Meter into their coating machines. This device is being designed to sample the coating in the enrober tank approximately every three minutes and subject the sample to cooling in constant temperature bath.

Mechanically, a small pump by-passes the curtain from the coater flow pan and at specific intervals a portion of this coating is entrapped and cooled. At the end of the cooling cycle this sample is ejected and the operation is repeated.

Electrically, a thermistor (temperature sensitive resistor) measures the temperature of the sample being cooled. As the temperature of the curtain or entering sample may vary, the timing device is not started until the sample reaches a temperature of 80°F. At this temperature the timer is tripped and it runs for a pre-set length of time. At the end of this time the actual temperature at the end of the conditions set above is compared to the "proper" temperature. If the actual temperature is above the "proper" temperature, then the coating is over-tempered and heat must be added to the system. Conversely, if the actual temperature is lower than it should be the heat must be removed from the system.

When in operation the riser and pump will be held at 90°F. The larger or so-called tempered tank jacket will be held at about 90, 85, or 80°F., depending on the rate of chocolate usage. 80°F., for instance, might be used on a 24-inch coater with coating being used at a rate of 1,000 lbs. per hour. The temperature of the smaller tank ("hot" tank) will be varied automatically and is dependent on the magnitude and direction (plus or minus) of the error signal. Make-up coating will be added to the "hot" or control tank at about 90°F., except for extremely high make-up rates in which case the coating must be super-cooled (88°F. for dark coatings) and held within  $\pm 1^{\circ}\text{F}$ .

This automatic sampling and tempering device is in the development stage and I have merely attempted to briefly describe the approach being taken to solve a problem with which we are all concerned.

An operation utilizing the most modern equipment will, therefore, consist of:

1. Continuous ingredient measure, mix and feed.
2. Continuous, high-volume cooking.
3. Automatic extrusion or center forming.
4. Automatic start-up of enrobing machine with constant control.
5. Fast cooling—a 120-foot multi-zone running at 20 feet per minute.
6. Continuous wrapping and packaging.

Going back to the biscuit and cracker operation and comparing a confectionery line with it, I think you all see that our industry is definitely progressing in the right direction.

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*Many candymakers who are going after the big shopping center business, in addition to following the basic marketing precepts, will have to know . . . .*

## Which Packages Succeed in the Shopping Center

BY JULIAN T. BARKSDALE

Vice President, Marketing,  
Stephen F. Whitman & Son, Inc.,  
Philadelphia, Pa.



Every manufacturer of consumer goods is vitally interested in which packages succeed today, not only in shopping centers but in the entire market place. Shopping centers, however, are becoming an increasingly important factor in the shopping habits of America.

Since World War 2, the growth of these centers has been phenomenal. In 1960, there were 4500 large centers; 1500 more in the planning stage; and it is estimated that by 1965, there will be approximately 8,000 in operation throughout the country. By the end of this year, shopping centers will account for about \$50 billion in retail sales, or about 25% of the total retail trade, excluding automobiles.

Keeping this growth pattern in mind, can the marketing needs of these "drive-in phenomena" be ignored? Certainly not!

Before American Management Association, National Packaging Conference, April, 1961.

Shopping centers are causing a definite change in the distribution for all consumer goods because they are made up of modern, high volume, self-service type outlets. They are causing a definite change in the shopping habits of Mr. and Mrs. America in the direction of self-service buying. Subsequently, shopping centers are necessitating a change in the type and design of all consumer packages.

As manufacturers of consumer products, we, too, find ourselves riding on the wave of this big change in the buying habits of the increasingly selective American consumer.

The development of packaging geared to self-service selling is still in its infancy, and no one has a "sure fire" formula for the right package to put into today's modern self-service stores. But continuing research and experimentation in packaging and packaging needs are essential in order to develop the right container . . . the one that will entice Mr. or Mrs. Consumer to buy our product.

For 120 years, my company has been in the prestige



**FORMS•FILLS•SEALS**  
**UNIT**  
**PACKETS**  
**More**  
**Economically!**

# STRIP-O-MATIC

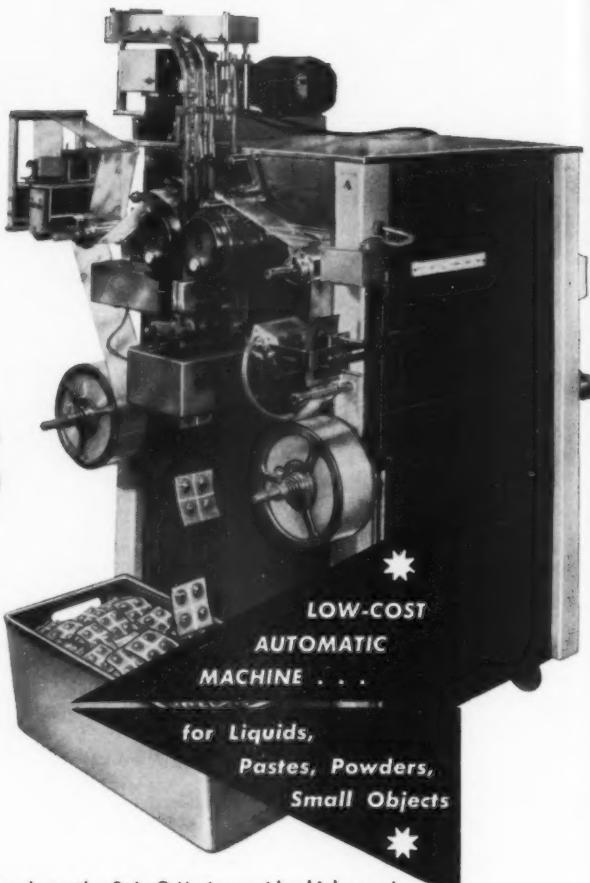


A versatile machine, adaptable to many products, the Strip-O-Matic provides high-speed automatic production at a modest initial cost. It inserts any small object, tablet, powder, liquid or paste between two strips of heat sealing material at a controlled rate. It heat seals the product on four sides in individual packets from one to four rows wide, then cuts off the strips at any desired length. It does all this automatically, economically and with a minimum of attention and maintenance. Ruggedly constructed throughout, the Strip-O-Matic can be used to package a wide variety of products, such as confections, pharmaceuticals, drugs, hardware, notions, soft drinks, electrical components and many types of foods, including boil-in-the-pouch. It can be used with virtually any heat sealing film, foil or laminated material.

**INTERCHANGEABLE SEALING ROLLERS:** Where it is desired to seal more than one type of product or to change package specifications, additional sealing rollers can be secured in the exact design wanted. These are quickly interchanged with a minimum of down time.

**QUICK CHANGE CUT-OFF:** The length of the cut-off can be changed from one unit to any desired number by merely pressing the proper buttons on a control panel. Eliminates complicated gear changes.

**TWIN THERMOSTATIC CONTROL:** Each sealing roller has its own doughnut type heating element and individual thermostat, assuring constant and uniform heat penetration at all times. The thermostatic controls are fully adjustable for all heat sealable materials.



**DOUBLE REGISTRATION DEVICE:** Front and back registration can be accurately maintained at high production speeds, with easily adjusted electronic controls. Also available with control for one-side registration.

**FEEDING MECHANISMS:** The Strip-O-Matic is available either as a basic machine for hand feeding or complete with automatic feeding device. The feeding mechanism is in each case the most efficient for the purpose, including tablet and screw feeders, volumetric fillers, auger fillers, automatic loading magazines, etc.

**ACCESSORIES:** When so desired, special printing rollers can be provided that will print a trademark or brand name on each individual packet. Hole punch, perforating mechanism and easy-tear devices can also be provided.

**WRITE FOR ADDITIONAL DATA NOW!**

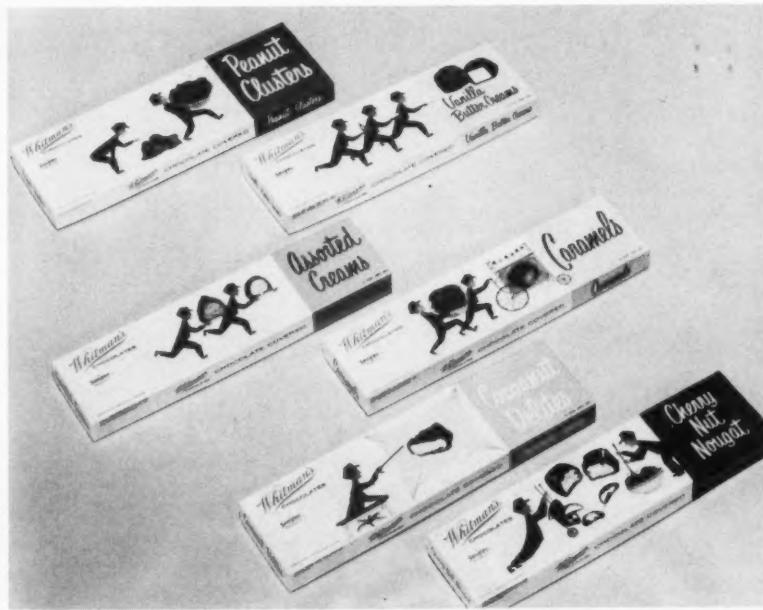


**MERCURY** **HEAT SEALING**  
**EQUIPMENT CO.**  
2601 N. HOWARD STREET • PHILADELPHIA 33, PA.



AIR BON TINS. This package was sold through our regular distribution channels for many years. The vacuum sealed tin was used to keep out moisture to which the contents are so sensitive.

FLUFFY ITEMS-BAGS. We expanded the Air Bons to a line of three flavors. The packages were developed for self-service type selling. The consumer has complete visibility of the contents and yet, through the use of a special cellophane, the contents are protected against moisture. The bags are easy to handle, and the basic design is the same on all three items.



NIBBLER ITEMS. This line of specialties were introduced and still sell through department stores, drug stores, and our other regular accounts. This line proved impractical, however, for the self-service type operation because of the shape and size of the box. They are not designed for mass display or ease of handling.



S. S. PEPPERMINTS. This is the type package that was developed for self-service shopping center stores, particularly supermarkets, chain drug stores, and variety stores. Dimension-wise, it is easy to handle, not bulky, and it will stack easily on the self-service counter. The box is constructed to withstand the excessive handling it will receive.

gift field of confectionery products. All our planning and packaging have been aimed in that direction. First, we made the finest quality product possible. Then we packaged it in a prestige type box to carry the greatest gift appeal to the consumer. As you can imagine, basically this type product is *personally sold* rather than a self-service type item. In most cases, the purchaser wants to know something about the product and he will ponder a while before making his selection. After he makes his purchase, he will usually ask to have it gift wrapped.

The distribution of confectionery products has shifted considerably, due mainly to shopping centers and the swing toward self-service operations. As this change began to effect our industry, we directed our research to shopping centers and the type stores contained within them, in an effort to come up with the right packaging for our products to capture a maximum share of this new market.

#### Drastic change for candy line

During this period of research, we market tested all of the products in our line to see if any were adaptable to self-service selling. Only a few of these produced sufficient turnover in these operations to be of any real interest to Whitman's or the retailer. The consumer recognized our product and bought it in fair quantities, but we found that our line had to go through a drastic change before it could be successfully placed on the self-service counter.

Now, fully into this new problem, we learned that the most important time in the life of a package is the instant when the decision is made whether or not to buy. Therefore, our job was to find the package which would produce favorable results . . . decisions to buy. It was our job to find the package which would produce a maximum profit for Whitman and for the retailer, and a value to the consumer.

#### Criteria for self-service packages

From our extensive studies of *the market*, *of consumer buying habits*, and of *packaging principles*, we formulated a list of five basic criteria for self-service packaging.

1. *Box Dimensions* . . . the box must be convenient to pick up and easy to handle. It must not be bulky. Furthermore, the box must be of sturdy construction to withstand damage from handling. A package which looks shop-worn will never move from the self-service shelf.
2. *Visibility of Contents* . . . the actual contents of the package should be shown, or if this is not practical, an excellent reproduction should be employed for this purpose. This is particularly true of candy and most other food items where *taste appeal* must be conveyed through *eye appeal*.
3. *Product Identification* . . . the name of the product should be a prominent part of the package design, and it must be easy to read. In a case where a company manufactures other nationally known products, and when that company's image would enhance a new item, then it is *mandatory* that the corporate image or name be

an important part of the overall design. At no time, though, should the corporate image overshadow the product name.

4. *Basic Design* . . . in a closely related line of products, "family resemblance" is very important. It carries identification from one package to another in the line. Colors may vary, but the basic design should be constant. This principle, too, is a very important factor in the effectiveness of a mass display of the line.
5. *Color* . . . this stage of development is most critical. The color of a package must be appealing and pleasing. It must also stand out enough to stop the passing glance of the consumer. Color must invite a second look at the package and its contents.

In this area, we learned that the selection of color was made easy by an unusually simple method. We made transparencies of more than fifty color variations of the same design. In every single case, we found that the colors which stood out in the transparencies were the ones which stood out best on the retail shelves and counters.

Many other elements must be considered in developing the ideal package for shopping center self-service selling. Convenience and ease of handling by the retailer are very important, but since I am covering what the consumer wants and will buy . . . I will not go into this phase of development.

The accompanying pictures show how we used the five criteria as basic guideposts in the development of a line of confections for self-service shopping center outlets.



A very important factor in our business is the messenger boy trademark which, we have learned through research, is very well recognized and is associated with the Whitman name. When the line of packages for self-service stores was being developed . . . we considered using both these identifying factors . . . the sampler and the messenger boy. Since the sampler package was so clearly related to gift merchandise however, we decided to use the messenger boy only to carry the Whitman name to these packages. The messenger boy connotes the same high quality product as is found in our more expensive packages such as our sampler.

We, at Whitman's, have followed the five basic criteria in developing a line of self-service type packages to sell in shopping center outlets.

1. Box Dimension.
2. Visibility of Contents.
3. Product Identification.
4. Basic Design.
5. Color.

(Continued on page 56)



## Inside Protection with a Flair

How? E. J. Brach & Sons, Chicago, use Rhinelander's board-lining chocolate Glassine paper. Package designers found that, when Rhinelander Glassine is laminated to box board, chocolate oils can't seep through, messy staining is prevented, and the candy contents keep their appetizing Come-Hither-ness.

Brach finds Rhinelander Glassine tops for other candy packaging jobs, such as fluted bonbon cups and candy trays.

Among its other advantages, Rhinelander

Glassine is low in price and handles with remarkable ease on high speed automatic packaging machines.

If your quality product needs maximum protection...with a flair that entices sales...look into economical Rhinelander Glassine or Greaseproof papers. And a range of attractive colors can complement the appearance of the product. Write today for more information and samples, stating your application.

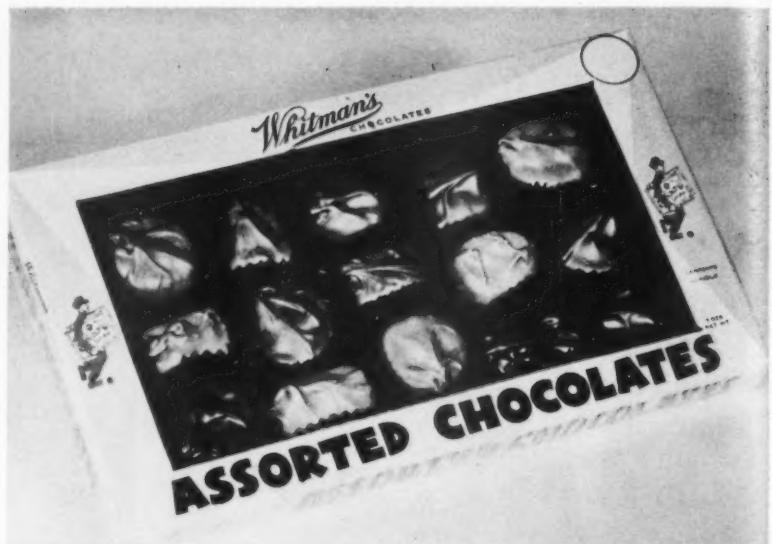


**Rhinelander**  
PAPER COMPANY • RHINELANDER, WISCONSIN

Division of St. Regis Paper Company

(Continued from page 54)

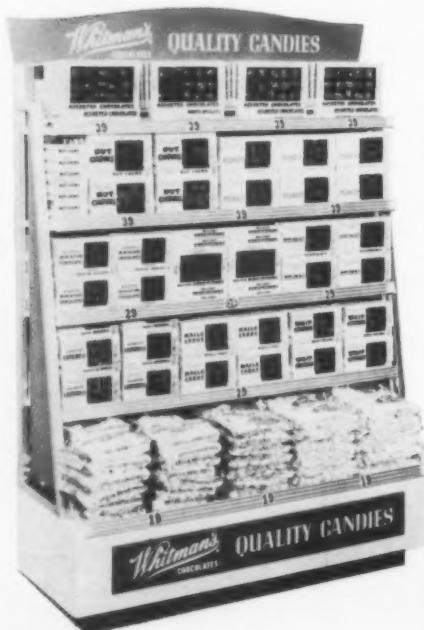
**ASST. CHOCOLATES.** This package is also included in our line of self-service chocolates . . . but the contents are "place packed" rather than "dump packed" into the box. The contents are still visible . . . and the package is easy to handle . . . it will withstand "wear and tear".



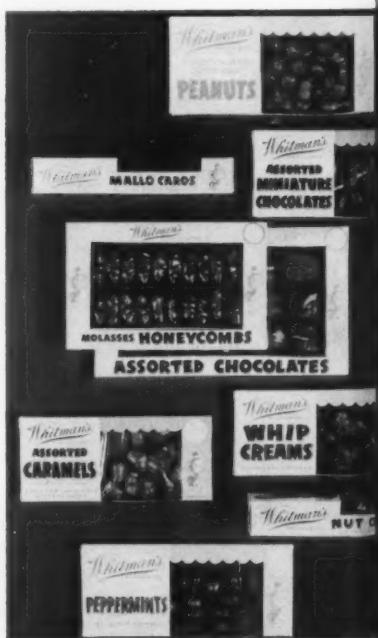
**FLORAL MINTS.** Is an item that has done extremely well over the years in our regular accounts . . . however, when tested in self-service outlets, it did not move in good volume.



**FRENCH MINT CREAMS.** Are the self-service counterpart of Floral Mints. The contents are similar, but instead of being placed in the box, they were "dump packed" into a window box. As a result, we have a very successful item for self-service outlets. Floral Mints, incidentally, are still doing very well in the regular outlets.



**WHIP CREAMS, PEANUTS, ETC.** These packages are grouped together to show how we used variation of color and similarity of design. The carry through from one package to the other is obtained. The messenger boy is our corporate image. It appears on every piece of stationery . . . every shipping carton . . . on practically every product we make. Notice how we have incorporated it into the design of our self-service packages.



**MASS DISPLAY.** All of the factors . . . the criteria which guided us in the development of our self-service line . . . has contributed to the overall results which we sought. In this display are many different items, and yet, because of the similarity of design, the image is an entirety. The color is striking, and the contents are visible.

# FAIRMONT

by *Cushion* **PACK**

## LOW-COST

This Confectionery Pad provides the outstanding *Cushion Pack* padding for all boxes in your line . . . and at reasonable cost! And you get the full benefit of *Cushion Pack's* demonstrated quality!

## ATTRACTIVE

Printed in attractive colors, including a tantalizing chocolate, this pad is made in three ply thickness—and you have your choice of these smart designs . . . the delicate "Floral"—modern "Doodles"—gay "Boxes 'N Bows" . . . or, if you prefer, your own design, richly printed in a selection of colors.

## PROTECTIVE

The Fairmont is glassine backed . . . it provides astounding protection for your box under severe conditions . . . and a *Cushion Pack* pad doesn't scratch, lint or dust . . . your candy literally floats on a cushion of air!

*designed . . . engineered for YOU!*

*Cushion*

**PACK**  
CORP.

A SUBSIDIARY OF GEORGE H. SWEETNAM, INC.

286 PORTLAND STREET  
CAMBRIDGE 38, MASS.

## For MAXIMUM PROTECTION and ATTRACTIVENESS

Sweetone Paper Products (many of which we originated) represent long years of careful development through close cooperation with leading confectioners and our own converting specialists. Reliability, uniform quality and real service have always been among our greatest assets.

Why not have the best papers to protect and enhance your confectionery packages!



Write Dept. C for samples to your specifications  
and/or literature on Sweetone products

CANDY BOX PADDINGS  
GLASSINE

WAVEE PARCHMENT  
WAXED PAPERS

EMBOSSED PAPERS  
CHOCOLATE DIVIDERS

DIE CUT LINERS  
PARTITIONS

LAYER BOARDS

BOATS AND TRAY ROLLS

REPRESENTATIVES IN PRINCIPAL CITIES



## GEORGE H. SWEETNAM, INC.

Specialists in Interior Packaging

282-286 PORTLAND ST. CAMBRIDGE, MASS.

# WE'VE ELIMINATED BAG BREAKAGE...



## WITHOUT SACRIFICING TRANSPARENCY



## BY USING AVISCO® "T" FILM

Here's what Saul Hershkowitz, president of Carousel Candy Company says about their new Avisco "T" Film bags, converted by Clearvue Cello Bag Company: "We've had absolutely no bag breakage on the packaging line, in warehousing or in shipment. And not one broken bag has been reported by markets selling our products. We also get the shelf life

we need and the sparkling clarity I demand. To me, clarity and sales are synonymous." New Avisco "T" Films, combining cellophane and special polymers, will give you all these benefits in packaging—regardless of your product. Contact us for an appointment with our representative in your area or a selected Avisco cellophane converter.



AMERICAN VISCOSE CORPORATION, FILM DIVISION, 1617 PENNSYLVANIA BOULEVARD, PHILADELPHIA 3, PENNSYLVANIA. SALES OFFICES ALSO LOCATED IN ATLANTA, BOSTON, CHICAGO, DALLAS, LOS ANGELES AND NEW YORK.

# What's behind candy tv publicity?

*Candy doesn't just happen to be chosen for a gift item on the big television give-away programs. It is planned publicity that does it. Here's a quick rundown on how it all happens*

With the industry's public relations program now in its fourth month, a wide variety of activities have been undertaken to bring the many positive facts about candy and chocolate to all segments of the public.

Work has been carried out with all types of media in both the print and broadcast areas.

Because of the vital interest which everyone in the confectionery industry has in the public relations program, MANUFACTURING CONFECTIONER feels that many candy men are interested in the actual mechanics involved in a major publicity placement. Accordingly we have interviewed members of the staff of Theodore R. Sills and Company, public relations agency for the Candy, Chocolate and Confectionery Institute, to determine exactly how such placements are developed.

In the television area, the agency has had a number of notable successes to date. On Valentine's Day an excellent presentation involving chocolate hearts was made on the NBC-TV network "Today" show. Dave Garroway, Zsa Zsa Gabor and others took part in this.

Arthur Godfrey's top rated (28 million viewers) "Candid Camera" on the CBS-TV network included a segment in which people in a supermarket were shown eating chocolate covered cherry cordials. The NBC-TV network program "The Price Is Right" included some 700 pounds of colorful candy in a huge display. And those of the program's 28,600,000 audience who have color television sets were able to see this handsome candy in living color. Other network television activities have included such programs as "Number Please," "Say When," and "Queen For A Day."

We asked the Sills people how this presentation on "The Price Is Right" came about as an example of how these television presentations are developed. The important thing to remember is that these publicity breaks do not occur spontaneously. They do not just happen. In almost all cases, someone or some group has developed the idea and then carried it through.

In the case of "The Price Is Right," as in the case of the other shows mentioned above, it all started with a meeting of the Sills plans board. This group meets regularly to decide on the tactics to be taken which will implement the strategy laid down jointly

by the agency and the board of directors of the CCCI.

As for television possibilities the group talked about various ideas which might be suggested to the producers of different shows. This is a most important phase of the work. The ideas suggested to the shows must demonstrate a clear understanding of the format of the particular program and at the same time must be fresh and interesting. The publicist must take to the producer an idea that will help to make his show better. The television people will give a hearing only to people they know have a reputation for creative and workable ideas. The publicist must build up his professional contacts and he does so only by providing a service to the media; not wild schemes.

In the case of "The Price Is Right" the Sills people knew that to fit into the format of this show the candy would have to be in the form of a prize. But the prizes on the show range from automobiles to mink coats to diamond rings. The question was: how do you compete with these very high ticket items. Realizing that the show is beamed in color, the agency decided that color might be the approach. Accordingly, a representative of the agency met with an executive of the show and pointed out the great color possibilities of a mass display of candies. It also was noted that such a prize would provide something new and different among the minks and diamonds.

"The Price Is Right" was interested and decided that it would include the candy on its show of May 10. The producers then selected the types of candy they would use and the legwork for the agency really began.

Staff members in both the Chicago and New York offices began writing letters and making phone calls to candy manufacturers to obtain the approximately 700 pounds of candy needed for the display. The candy was shipped to the studio where it was placed in some 60 apothecary jars of varying sizes and shapes.

When it was wheeled on camera it was a handsome reminder to more than 28 million Americans of the attractiveness and appeal of candy.

And this appeal was emphasized by the man from Rhode Island who won it. "My grandchildren will love this," he exclaimed.

# marketing power\*



THE **LIFT**  
GOOD CANDY  
GETS FROM  
**MILPRINT**  
**PACKAGING**

\*the sum of Milprint skill and experience (more than half a century), the right material, or combination of materials, the right printing process, economical cost, creatively blended for the benefit of your product!

Send your candy to market under *full marketing power*. Call Milprint today.

*Milprint, Inc. General Offices, Milwaukee, Wisconsin. Sales offices and plants conveniently located across the nation.*

**M** MILPRINT PACKAGING gives your product **MARKETING POWER**

# Project: Package Design

*Students of design have come up with some very interesting packages for candy some of which can be used immediately without changing equipment. Others require slight modifications of equipment, while others might well be the packages of tomorrow. All designs are the work of the young set, who show remarkable grasp of the industry's needs. Look them over.*

SOME 30 STUDENTS of three design schools accepted the challenge last winter from the Film Department of Du Pont Company to produce candy packages that would meet the industry's requirements of design, merchandising, and protection of packaged product. Result: 130 original package design entries ranging from the strictly functional to the revolutionary.

Staged at Museum College of Art, Philadelphia; Carnegie Institute of Technology, Pittsburgh; and the Institute of Design, Illinois Institute of Technology, Chicago, the program had the dual purpose of acquainting industrial design students with typical commercial packaging requirements in the food industry. Also it aimed at providing the candy industry with a fresh, uninhibited approach for some of its packaging needs.

The program was coordinated with academic objectives at the three schools and was initiated by student orientation of the packaging needs of the candy industry, and of the properties and characteristics of packaging films.

The orientation included a discussion of film types, demonstration of film handling techniques, requirements of candy packaging machinery, and principles of effective package design.

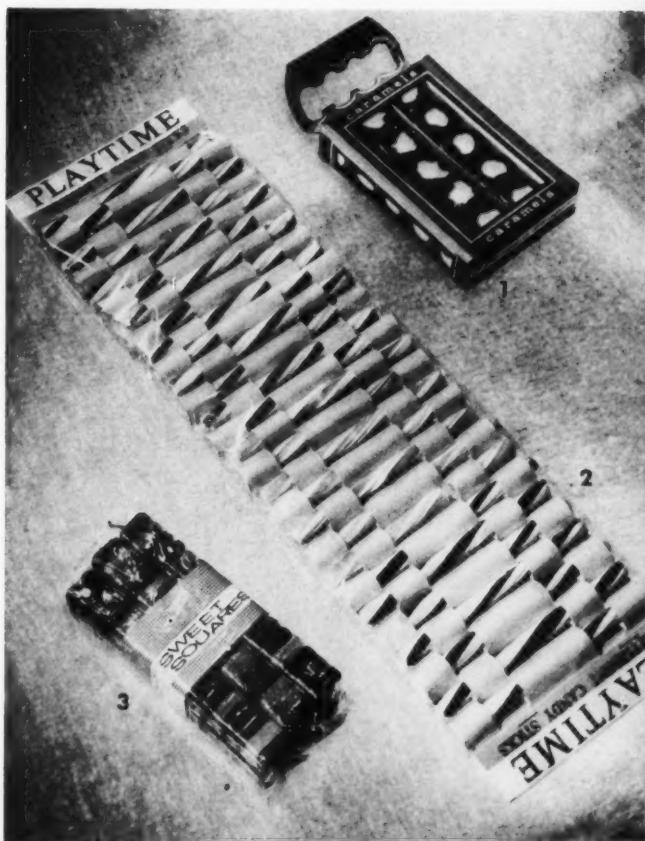
Problems of candy packaging were stressed, but no suggestions were given the students for solving the problems, except to illustrate a few already in common use by the candy industry.

The goal was to encourage student initiative in creating new approaches and to have them seek their own avenues of attacking the problems.

Regular class sessions were supplemented by field trips to candy plants and a study of marketing aspects of candy.

Originators of the winning designs were given an expense-paid trip to the recent National Packaging Exposition in Chicago. In addition to visiting the many packaging exhibits, the students were guests at the design offices of Robert Sidney Dickens, president of the Package Designers Council. Also they attended a meeting of the organization as guests of Karl Fink, executive committee chairman of the Council, and a member of the judging panel for the student project.

Top designs selected, follow. Can you use any of them? They will be made available to the industry.

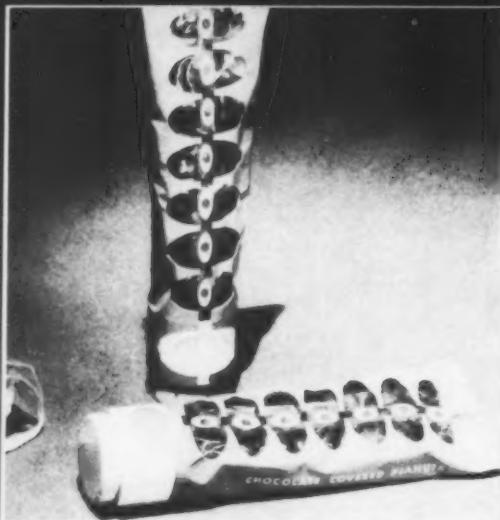


1. Designed by Georgiana Chappel, 2. by Gary Lofgren, 3. by Nathaniel Marks

1. Package of caramels designed by student at Carnegie Institute of Technology is part of the package group that enabled the student to place First. Package is a neat, compact unit with excellent product visibility which will stack well on display shelf. It has die-cut handle for easy carrying by consumer.

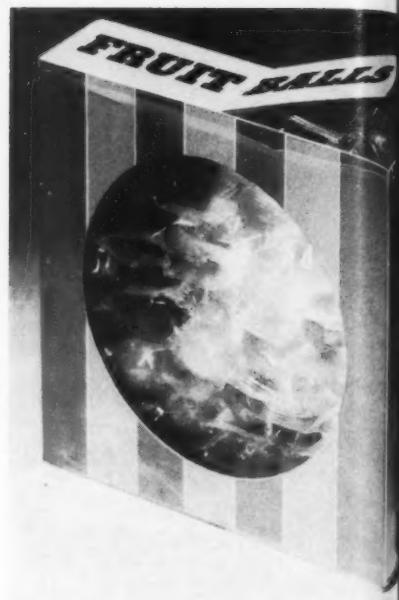
2. Playtime Peppermint Sticks was an entry of interest from the Institute of Design, Illinois Institute of Technology. The sticks are inserted between various widths of paper strips in basket-weave pattern.

3. Sweet Squares is neat package with good product visibility, identification and will stack well. Is an entry of student from IIT Institute of Design.



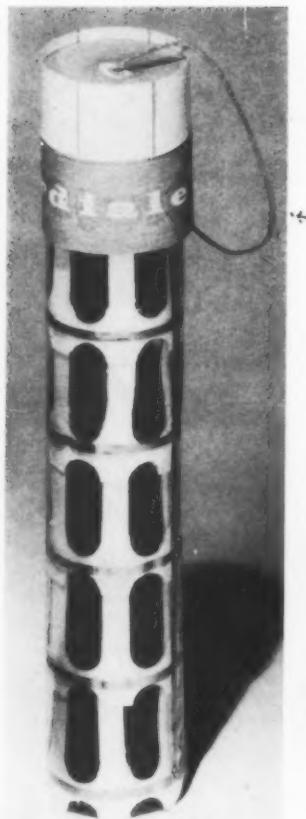
Student designer adapted tube to candy packaging to win first place for the Philadelphia Museum College of Art. The package features a plastic top that twists to allow one piece of candy to be dispensed at a time. The sealed pack is opened by a tear tape that removes the top portion of the cellophane (left). An inner cellophane bag retains tubular form when dispenser top is in either open or closed position. Designers goal was to solve problem of reclosing bags made of flexible materials

Designed by Gary Gerber



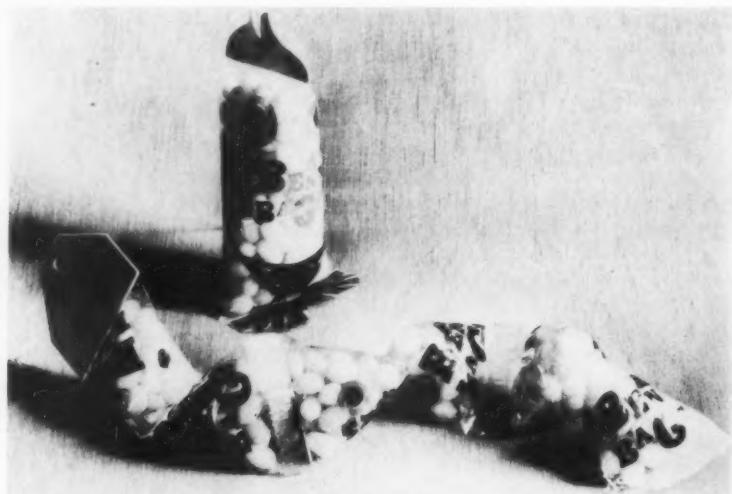
Colorful, see-through dispenser pack (right) for strip-packaged fruit balls earned student designer of Institute of Design, IIT, top rating in the candy packaging project. Cellophane overwrap opens with a tear tape; hinged flap on box allows candy to be reeled out as desired. According to judges, package can be adapted to strip-pack machine.

Designed by Richard Demme, Jr.



"Cordials" Disappearing Cherries package was part of a student's entry that won second place among the Philadelphia's school entrants. Interesting package allows good visibility of product, and has an "air" of quality and richness. The unique package design is an eye-catcher and gives good product protection.

Designed by Daniel Posnak



Tetrahedron design was adapted by student at Institute of Design, IIT, and won second place. The package featuring a single and a multiple pack. An interesting new design has been applied to a different product. It is an unusual unit that is both economical and attractive, according to Karl Fink, one of the judges of the packaging project.

Designed by Rebecca Feldman

This  
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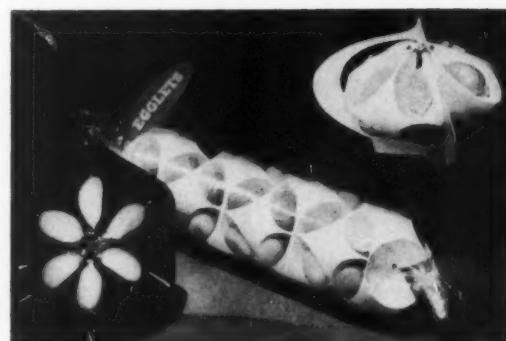
This group of licorice packages earned top award at Carnegie Tech. The packages coordinate candy color closely with package graphics in a black-and-white printed cellophane bag, an overwrapped checkerboard pattern, and a die-cut box filled with skewered candy pieces. Student was cited for over-all talent and sensitivity in relating product color to graphic design.

Designed by Georgiana Chappel

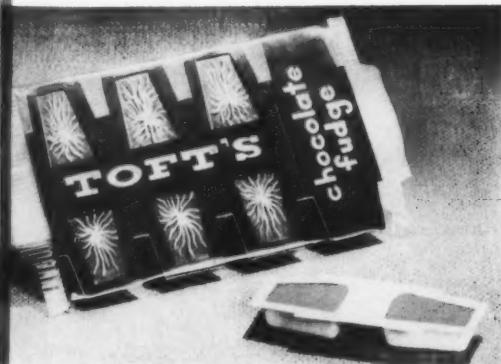


Second place at Carnegie Tech was taken by designer of these packages for the simplicity and restrained taste. The "Kandiesticks" (foreground) are held securely by a single piece of folded, die-cut board, overwrapped in printed cellophane. The licorice package capitalizes on a design often used in packaging mens belts . . . a logical approach for ribbons of licorice.

Designed by James Stein



Designed by William Frcka



As an alternative to changing dies to achieve different candy shapes, packaging design uses economical vacuum-formed trays in varied forms. Third place winner, the Philadelphia Museum College of Art student design enables vari-shaped candy to be formed by a single die. For eating, consumer frees candy similar to popping cube out of ice tray.

Designed by Duncan Peek



Second place tie at the Philadelphia Museum of Art was cellophane-wrapped candy sticks in a carousel. Cellophane is wrapped around both candy and string. The wrapper is pulled open as the stick is taken from the package. Judged as quite inventive and completely new in concept. Designed by Daniel Posnak

## New Broker Appointments

The annual Directory of Candy Brokers lists several hundred candy brokers and the manufacturers they represent. Listed below are recent changes showing the manufacturers and the newly appointed broker.

**Banner Candy Mfg. Corp.**, Brooklyn, N. Y.  
Joe Bonomo Assoc., New York, N. Y.

**Baden's**, Independence, Kansas  
Hamburger Sales Co., Yeadon, Pa.

**Blumenthal Bros. Chocolate Co.**, Philadelphia, Pa.  
Blake Associates, San Francisco, Calif.

**D. L. Clark Candy Co.**, Pittsburgh, Pa.  
Hitz-Riley Company, Narberth, Pa.  
M. R. and J. Brokerage, Norman, Okla.

**Delson Candy Co.**, New York, New York  
W. H. Gray, Pittsburgh, Pa.

**DeMet's, Inc.**, Chicago, Ill.  
Edward W. Scott, River Forest, Ill.

**Empire State Nut Co.**, Albany, N. Y.  
Lipton & Lazarus Assoc., Floral Park, N. Y.

**Falcon Nut & Candy Co.**, Philadelphia, Pa.  
Edward W. Scott, River Forest, Ill.

**Ferrara Candy Co.**, Chicago, Ill.  
Edward E. Clark, East Cleveland, Ohio

**Heller Candy Co.**, New York, N. Y.  
Edward W. Scott, River Forest, Ill.

**Joytown Products**, Brooklyn, N. Y.  
Roy O. Keiger & Assoc., Winston Salem, N. C.

**Kern Foods, Inc.**, Cincinnati, Ohio  
Lindgren Brokerage, Inc., Indianapolis, Ind.

**Leaf Brands, Inc.**, Chicago, Ill.  
Brierley & King Brokerage, Cambridge, Mass. (count goods)  
E. W. Crowell, Stoneham, Mass. (package goods)

**Marshmallow Novelty Co.**, Chicago, Ill.  
Frank S. Schulz, Louisville, Ky.

**Norris Candies**, Atlanta, Ga.  
R. F. Davey Co., Pittsburgh, Pa.

**Philadelphia Chewing Gum Corp.**, Havertown, Pa.  
Stevens-Turville, Hutchinson, Kansas

**Poppycock Candies, Inc.**, Villa Park, Ill.  
Jessie R. Pike & Son, Point Pleasant, N. J.

**Queen Anne Candy Co.**, Hammond, Ind.  
Fairley Brokerage Co., Hamilton, Ohio

**Sisco-Hamilton**, Chicago, Ill.  
Charles Hansher, Los Angeles, Calif.

The 1961 Directory of Candy Brokers, classified by the territories covered by the brokers, is included in The Candy Buyers' Directory and is available at the publishing office for \$5 per copy.

**PACKAGE**

## MAKES THE DIFFERENCE

### Cost Cutter

For consistently neat, attractive wraps—on cartons, trays or boxes—the Package Model FA will give you up to 120 packages a minute. With its wide size range, quick change-over and ability to handle a variety of wrapping materials, the FA offers you flexibility of operation that means lower packaging costs.

Whether you need a tandem inner and outer wrap of printed, registered, heat-sealing foil over waxed paper like the Cracker Jack box, or a polyethylene overwrap as Charms . . . if you want to use easy opening tapes, medallions or code dater attachments . . . have rigid cartons, loose trays or extension edge boxes . . . there's an FA that's right for your job.

Four models are available, depending on size requirements. Your Package representative can show you how the FA, either by itself or as part of an integrated line of Package equipment for the candy industry, will give you fast, efficient, automatic operation, combined with eye appeal in your wrappings.



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C.  
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oods)

# G-D *Supermatic* FOR ANY WRAP



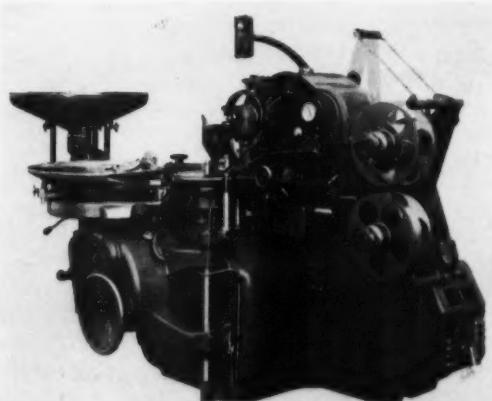
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Packaging machines prove 10 big features. A Supermatic G-D wrapping machine for every requirement—and it's the fastest in the world! Application includes candies, chocolates, bars, coins, toffee cut-and-wrap, chewing gum, cigarettes, sticks, balls, moulded pieces, rolls, sachet, double twist and bunch wraps.

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SEE US AT BOOTH NO. 310



For high-speed twist wrapping of hard form square or rectangular shaped candies. Double end twist wrap 400-450 speed range per minute. From 320 to 380 speed range on bunch fold. Model No. 2500.

G-D  
*Supermatic*

PACKAGING CORPORATION

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Benedict R. Marfuggi, Vice President-Sales Manager

## New Packages



**Peter Paul, Inc.**, Naugatuck, Conn., is using MSD-60 cellophane film as an overwrap for its new line of miniatures. They heat seal 50-75° lower and get strong seals with less possibility of melting chocolate coatings. Also 120 packages per minute can be run. The film product is 22,000 sq. in. per lb., and is a development of Du Pont, Dept. MC, Wilmington 98, Del.



**Thin Jer Mints**, mint and ginger chocolate-coated cookies, produced by The Burry Biscuit Corp., are being marketed in a polyvinyl-chloride (PVC) custom mold tray which fits into a shallow carton. The trays can be molded to fit many candy products, enabling the fragile food to fit snugly in the package, reducing breakage and crumbling considerably. This particular tray is chocolate-colored to match the product, and the molded indentations are deep enough to carry four items in each. Product remains in place. The PVC carton is covered with printed paperboard sleeve and is overwrapped with clear cellophane. Trays are a product of Panta-Pak division, The Pantasote Co., Dept. MC., 415 Madison Ave., New York City.

Rest period?

OH, NO SIR!  
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Every Woodman machine features clean, simple engineering...finest materials...precision manufacture. A combination that insures long troublefree service.

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**WOODMAN**  
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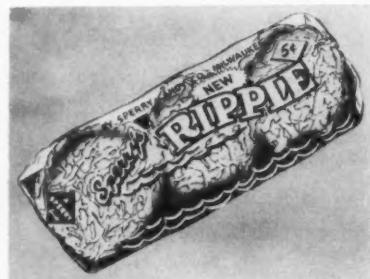
647 E. College Ave., Decatur, Georgia  
In Canada, The Paul Moore Co. Ltd.



## New Packages



**Sugarlogics World Corp.**, Delray, Florida, is packaging its Dextra Fortified Sugar in Polyethylene bags. Moisture protection is a factor with this product, as the 27 nutrients in it would be affected by moisture penetration. Attractively-designed and durable, the high clarity, 3 mil polyethylene bags are produced by The Dobeckmun Co., Division of The Dow Chemical Co., Dept. MC., Cleveland 1, Ohio. The bags are printed in red, blue, and yellow.



**Sperry Candy Company**, Milwaukee, Wis., has added "New Ripple" as a Summer bar. It contains three clusters of shredded coconut mixed with maple flavor fudge. The 5¢ bar's wrapper is printed in cool colors (green, white, and brown) and has maximum "see-through" visibility to the rough-textured maple-tan candy. The bar will be marketed through regular channels in 6 packs, boxes of 24, vend pack (120) and in the Summer Assortment 48 pack.

Trouble?

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WOODMAN.

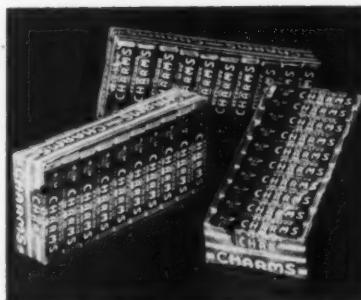
The clean, simple engineering, fine materials and precision manufacture of Woodman weighing and packaging equipment insure top production, extreme accuracy, low down time and virtually trouble free service. This combination plus greatly reduced operator fatigue means high profit for Woodman equipped firms.

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In Canada, The Paul Moore Co. Ltd.



## New Packages



**Charms Candy Company**, Bloomfield, N. J., is overwrapping bulk units of 20 purse size packages of Charms hard candy with Visqueen film, 1-1/2 mils thick. The candy-maker reports longer shelf life and reduced material cost. The film producer is Visking Co., Dept. MC, 6733 W. 65th St., Chicago 38.



**Thos. D. Richardson Co.**, Philadelphia, Pa., is marketing 7 oz. packages of After Dinner Mints in reusable plastic containers. The package not only serves as an attractive candy dish but is reusable as refrigerator dishes, etc. Brand and product markings in red and blue are on the cover. Initially, white mints and assorted mints are available in the containers which are about 2-7/8" high and have a diameter at top of 4-3/4". Plans are underway by Richardson to pack other mints and confections in plastic dishes. For the retailer they stack easily, and make attractive stack, shelf and check-out counter displays. The successful item is in supermarkets, grocery, variety, drug, department and confectionery stores. The package is a product of Plastic Packaging, Dept. MC, Chicopee, Mass.

Incredible!

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Woodman experience in weighing and packaging, plus clean, simple engineering, fine materials and precision manufacture, produce machines that regularly set production records while weights are held to incredible limits. If you are plagued by low production or inaccurate weight, a call to Woodman will prove most profitable to your company.

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# SALES-WINNER!



## Goetze's 6-in-1 packs of caramel creams seal fast, sell fast in new Du Pont cellophane

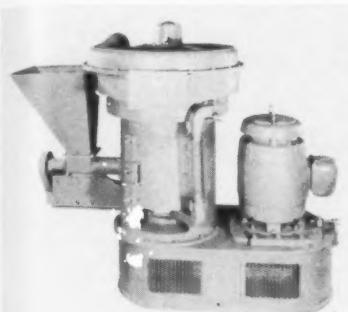
More units sold, faster turnover, and more efficient overwrapping—that's the profitable packaging story of Goetze's 6-in-1 packs of caramel creams in Du Pont cellophane. The 6 individual "cream boats" offer extra convenience and are popular for snacks, lunch boxes, picnics and parties. They look their appetizing best, stay fresh and tasty in sparkling-clear MSD-54 cellophane.

And because MSD-54 (developed especially for over-

wrapping) now seals at 50°F. lower temperatures, Goetze gets better machine efficiency, better production. See how you, too, can win more sales and improve production. Contact your DuPont Representative or Authorized Converter. Du Pont Co., Film Dept., Wilmington 98, Delaware.

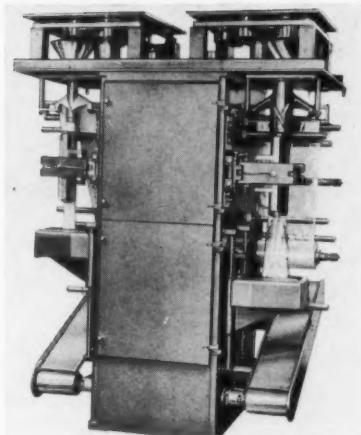


## New Products



A totally new dry milling machine for ingredients for confectionery coatings has been announced. This new air attrition mill will reduce and accurately classify ingredients to any desired fineness, down to less than one micron if desired. Products of superior texture and flavor may be obtained simply by mixing the dry ingredients before introduction into melted fats.

For further information write: The Bauer Bros. Co., Dept. MC, 1720 Sheridan Avenue, Springfield, Ohio.



A completely new pouch forming, filling and sealing machine has been developed. It is a double-tube machine with all the advantages of two single-tube units, but at less cost. Either pillow or four-seal type packages are directly formed from roll stock of any type of heat-sealable film, paper, foil or laminate, with either impulse or conventional sealing. The exceptional versatility is due to the independent drives that make it possible to operate either of the two tubes independently of the other. It

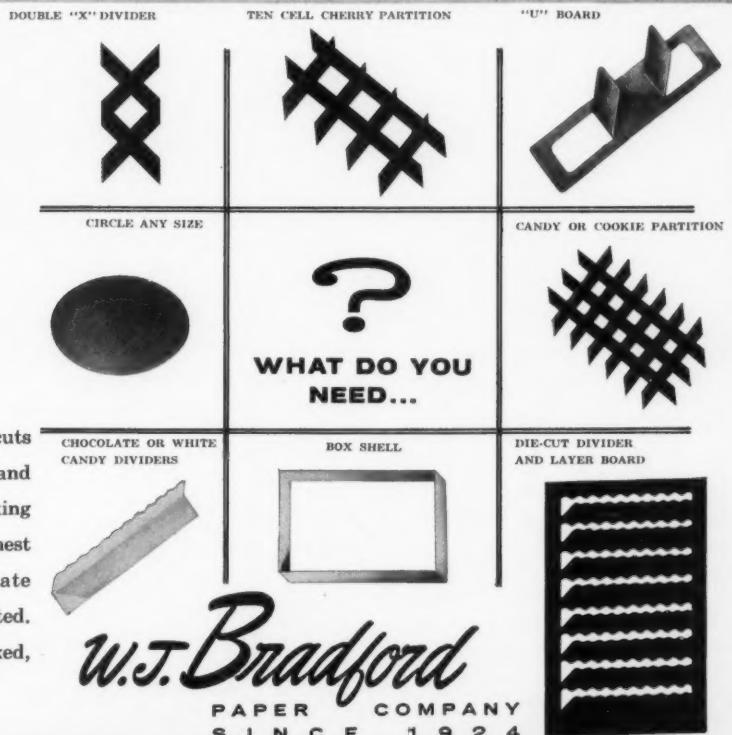
can simultaneously run two different sizes . . . with two different products . . . by means of two different feeds . . . with two different types of sealing methods . . . and two different types of pouch . . . at two different speeds. The machine operates at speeds up to 150 packages per minute producing pouches from 2" x 3" up to 8" x 14½". Since the filling tubes are located at the sides of the machine, the web rolls are easy to change and threading is as simple as with a modern motion picture projector. For further information write: FMC Packaging Machinery Division, Dept. MC, 4900 Summerdale Avenue, Philadelphia 23, Pa.

A new carton printing press has been developed that produces 2,700 sheets, printed two colors, each hour on a production basis. Either wrap-around or conventional flat electros can be used on this press, and both can be used at the same time, one type for each color. This a highly automatic machine, particularly suitable for printing folding carton stock.

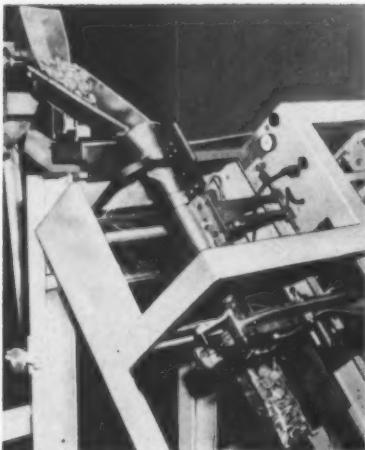
For further information write: Heidelberg Eastern, Inc., 73-45 Woodhaven Blvd., Glendale 27, Long Island, N.Y.



CONFEX quality partitions and die-cuts add eye-appeal to your product and protect them from crushing, sticking together, etc. They are made from finest white, grey, kraft or dark chocolate cardboards . . . plain, waxed or silicated. Die-cuts are also made in plain, waxed, or glassine papers.



3744 SOUTH ASHLAND AVE., CHICAGO 9, ILLINOIS • PHONE LAFAYETTE 3-9280



**A new form, fill, seal machine** automatically removes crumbs or "dust" while packaging candy. This new model is also designed to prevent fragmentation by providing a sliding movement through the bag. As the product empties from a conveyor, it passes over a vibrating screen that removes any loose particles. It then completes its gliding movement into the bag that is formed around it.

For further information write: *Mercury Heat Sealing Equipment Co., Dept. MC, 2601 North Howard St., Philadelphia 33, Penna.*

**A polymer coated polyethylene** has been developed, that claims to retain all the positive characteristics of the basic film and eliminate its major disadvantages. The new film has a polymer coating on both sides, which adds resistance to the passage of oils, greases, bases and flavors to polyethylene's basic durability and water vapor resistance. Familiarly referred to as "PCP", it also has transparency and surface gloss superior to standard polyethylene. The new film is now in pilot plant production and will be limited in supply for some time.

For further information write: *Olin Packaging Division, 460 Park Ave., New York 22, N.Y.*

**A recording thermometer** recently developed offers shippers of perishable candies accurate, hour-by-hour written records of temperatures in transit. The new model offers range from  $-20^{\circ}$  to  $100^{\circ}$  F. For shippers, the permanent strip chart records pinpoint temperature conditions that may affect shelf life of produce. It measures 3" in diameter and 5" in length. The new recording thermometer is self-contained, spring wound, has a

short arm inkless stylus-type pen, and employs a strip chart recording arrangement. A continuous hour-by-hour record of temperatures can be made for periods of 15 or 30 days.

For complete information write: *Ryan Recording Thermometer Co., Dept. MC, 851 Poplar Place, Seattle 44, Washington.*

**Insulated chests** for salesmen's samples are made of expanded polystyrene foam plastic molded in one piece. One of the popular sizes is a chest measuring 20 x 20 x 17 on the outside, and a net size of 16 x 16 x 13 on the inside. Thus they have a net capacity of 2 cubic feet. In tests with frozen foods, the unit was able to keep products frozen as long as 36 hours with temperatures on the outside of the car ranging from 80 to 90 degrees.

For further information write: *Polyfoam Packers Corp., 6415 N. California Ave., Chicago 45, Illinois*

**Molded plastic trays** have been adapted to bulk handling of chocolates and other candies. Molded in one piece of high density polyethylene, the smooth surface cannot absorb dirt or odors and washes clean. This tray is half the weight of comparable wood trays and are virtually unbreakable. Layer cards of the same plastic replace the usual cardboard layer card to complete the light weight and completely sanitary bulk handling system. These trays can be stacked with interlocking edges.

For more information write: *Polymer Chemicals Division, W. R. Grace & Co., 225 Allwood Road, Clifton, N.J.*

**An automatic carton closer-sealer** of compact, simplified design and fast, fully automatic operation, has been developed. It is easily adjustable, and cold glue, hot melt or hot wax sealants can be used.

For further information write: *Phillips Associates, 6003 Market Street, Oakland 8, Calif.*

**An FDC black** has been developed from a blend of the FDC colors. It is claimed to be a true black, without green or blue shades.

For further information write: *Bates Chemical Company, Lansdowne, Penna.*

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Colorado

# Merchandising Memo

**Candy and Father's Day.** Fathers sometimes get lost in the shuffle, with Father's Day coming so quickly on the heel of the compatriot "Mother's Day."

One manufacturing confectioner uses a window display of photographs of father and son, father and daughter, or just plain "dear old Dad". Photos, obtainable from a local photographic studio who dotes on the publicity, plus candy and the inevitable window cards suggesting "Remember Dad on Father's Day with some of our dandy candy."

Same confectioner offers a free model airplane kit valued at a quarter (more or less) to each youngster who purchases boxed candy, intended for presentation to Dad on Father's Day. He offers a \$1 cash prize for the best scale or flying model brought in by a neighborhood youngster and "lend leased" for a very special window display. Combination of this contest plus free kits keeps interest high among neighborhood small fry. He also offers small runner up "consolation prizes" of 50¢ pieces for the five best flying or scale models brought in and considered good enough to participate in the resulting window display.

**Camp and Candy.** Many boys and girls will spend much or a portion of their summer in YM, YW Boy or Girl Scout or other camp.

One manufacturing confectioner secures photographs of camp activities from organizations which sponsor local youth camps, pictures they are only too happy to provide gratis.

From these he builds a window which also contains boxed and hard candy with posters suggesting:

"When you visit your son or daughter at camp, take along some candy, they'll welcome it with open arms."

**Candy and The Citizen.** One manufacturing confectioner is building business and cementing goodwill in no uncertain terms by offering a five pound box of chocolates monthly to the "Solid Citizen".

Anyone may come into his establishment and fill out a nomination blank providing name and address of some civic-conscious citizen who is doing an outstanding job for the community.

In addition to the name and address of the person making the nomination, the form also asks for a "brief" on what the nominee has done. The first of the succeeding month, the winner's name and his civic contribution is in the shop window. Selection is made on the basis of worthwhileness to the community. Of course the entire program is promoted in newspaper advertising. Also, the names and addresses of the nominators are added to the candy retailer's mailing list, or used to correct the mailing list as the case may be.

# it's IDEAL for you...

**faster...more efficient production  
in caramel cutting and wrapping...  
over 500 a minute.**

*Detailed brochure tells you  
how...get your copy today.*



## CANDY PACKAGING AND MARKETING

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JUNE

Vol. 21, No. 3

1961



## **"May we tear your package to pieces, please?"**

We'd like to examine it very carefully and, with all due respect, tear it apart. We don't charge for this. Any redesign and recommendations we come up with are yours gratis.

We do it because it brings us business.

In the past, we've proven to manufacturers that they were using unnecessarily expensive cellophanes. That they were using the wrong cellophane for the climates they were merchandising in. That the graphic design

of the package was not in keeping with the color and texture of the product. We've made packages structurally sounder and we've revealed sealing flaws. We also know that a lot of manufacturers aren't using cellophane when they should be.

So may we have your package, please?

Our staff is talented and eager, but not impetuous; they only tear packages apart when it's necessary. And they always put them back together again.

PACKAGING DIVISION **Olin**  
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# Progress Report from the Food & Drug Administration

BY FRED L. LOFSVOLD

Director, Philadelphia District,  
Food and Drug Administration  
U. S. Department of Health, Education and Welfare

**T**HE FOOD ADDITIVES AMENDMENT was enacted in September 1958 for the purpose of preventing the use in food of substances of unknown toxicity. Procedures were established by which interested persons could petition the Secretary of Health, Education, and Welfare for a regulation permitting use of an additive, and setting limits to the amount to be used where such limitation was necessary.

For additives already in commercial use before January 1958, the amendment was not to become effective until March 5, 1960. This postponement was intended to provide time to gather the necessary scientific data, prepare and submit the petitions, and for the government to act upon the petitions. It was further provided that if this period were not long enough the Secretary could grant extensions up to March 5, 1961 to permit the necessary work to be completed by industry and by government when such extensions would involve no risk to public health.

At the time that the amendment was passed it was thought that this two-and-one-half year period would be sufficient to take care of all those additives which had been in use prior to January 1, 1958. As all of you know that has not proved to be the case. A large amount of work still remains to be done.

However, a great deal has been accomplished since September 1958. We have issued lists of 718 items which we consider generally recognized as safe and therefore not requiring a regulation. We also have listed 112 substances which were the subject of prior sanctions and also do not require submission of petitions.

We have received about 417 petitions for regula-

tions. 175 of these covered indirect additives and involved 1,675 chemicals. 216 of the petitions were for direct additives involving 257 chemicals. About 100 of the petitions could not be filed because they were inadequate. Others were not filed because it was concluded that the substances involved were not additives as defined by the amendment. As of mid April we issued 67 regulations and 178 petitions were still being considered.

Under the authority to grant extensions of time to March 5, 1961, the Secretary granted extensions for 3,000 uses of food additives.

#### Couldn't meet deadline

As March 5, 1961, approached it became apparent that this backlog of work on pre-January, 1958 additives could not be handled by that deadline. Since the authority for extending the effective date of the law would expire on March 5, 1961, we asked the Congress for authority to grant further extensions.

At hearings before the House Committee on Interstate and Foreign Commerce in February 1961, Secretary Ribicoff, Commissioner Lerrick and several industry representatives testified in favor of such an extension. The bill before the Committee proposed an "open end" authority to grant extensions at the discretion of the Secretary. It did not set any further deadline date. At the hearings, Representative DeLaney of New York and Representative King of Utah, testifying as witnesses, advocated a time limit. The Committee ultimately reported out a bill which granted the Secretary authority to issue extensions up to

June 30, 1964. The House and Senate passed this bill and it was signed by the President on April 7, 1961.

This new legislation does not provide for automatic extensions for all additives which were in use January 1, 1958. Those who need further extensions must apply for them. The Commissioner has announced that such applications must be made before June 30, 1961. Extensions can be granted only if all of the following conditions are met:

1. An extension had been granted to March 5, 1961 or an application for extension was pending on that date.

2. A diligent effort has been made to gather the necessary scientific data.

3. More time is necessary to complete the scientific investigations.

4. There is no undue risk to the public health.

Requests for extension of time beyond July 1 will be considered if the following information is promptly submitted.

1. The specified name or chemical designation of the substance, the use or uses for which it is desired, and the amount and purpose involved in each usage.

2. A statement outlining actions taken to determine applicability of the food additives law, estimates of the amount of research work needed to date.

Any extensions beyond January 1, 1962, will be conditioned upon a requirement of progress reports every six months.

The problem of implementing the 1958 amendment has proved far larger and more complex than anyone visualized when it was enacted. Progress has not been as rapid as we had hoped, but progress has been made. If both industry and government people continue to exert their best efforts most, if not all, of the pending matters should be disposed of before the new deadline of June 30, 1964.

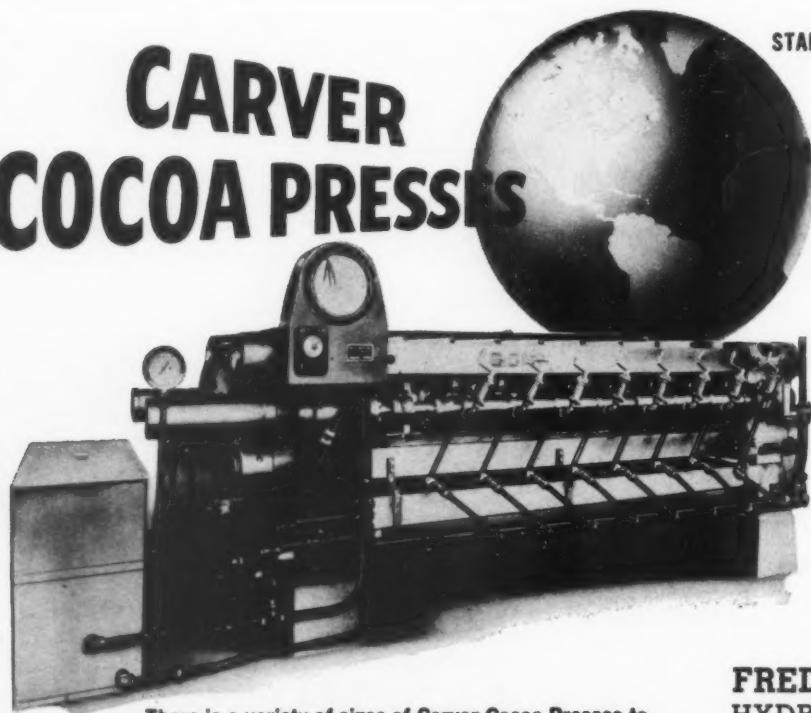
#### Latest legislation on artificial colors

The "Color Additives Amendments of 1960", signed into law on July 12, 1960, is the latest legislation on the long standing problem of artificial coloring of food.

Artificial colors had been used in food long before the Food and Drugs Act of 1906 was passed. Some of these colors, particularly dyes, which were then manufactured from coal tar, were known to be potentially harmful. While the 1906 Act did not require pretesting of these colors, a voluntary program was set up by the government and industry to select those dyes which were believed to be safe, and to arrange for testing of batches of these dyes to make certain that they contained no harmful impurities.

When the Food, Drug and Cosmetic Act of 1938 was under consideration the Congress concluded that this program should be made mandatory. The 1938 Act therefore contained a provision which called for the listing of coal-tar colors which were suitable for use in foods, drugs, and cosmetics, and for testing of each manufactured batch before it was distributed. In order to provide for additional colors, if they

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became necessary, the Act authorized the addition of "harmless" coal-tar colors to the approved list. This pattern worked very well for several years. Manufacturers had access to ample supplies of the colors that they needed and the public was protected so far as purity was concerned by the batch testing procedure.

As years passed, however, scientific methods of investigating the toxicity of colors and other materials improved. Application of these testing methods to several of the colors believed to be harmless, showed that they were not completely harmless, but in sufficient concentration were definitely capable of causing harm.

#### FDA can't set tolerances

The question then arose as to whether the Food and Drug Administration could certify a color which had been demonstrated to cause harm to test animals, even though in the concentrations normally used in foods it would not exhibit such properties. In other words, could the Food and Drug Administration establish a limit as to the quantity of color to be used in a food? We thought that the wording of the law did not permit this. Other people did not agree. Ultimately the question was settled in a case before the Supreme Court. The Court unanimously agreed that the Department had no authority to set tolerances under the existing law when the color in question had been shown to injure test animals. There was then no alternative but to remove from the approved list any color which experimentally showed toxicity to the test animals.

#### Difficulties arose

At about the same time another problem in the coal-tar field became apparent. Because of new methods of preparing food colors, it became very difficult to decide whether certain coloring materials fell within the definition of a coal-tar color or not. Many coloring materials were being used which were derived from other sources, and in many cases the toxicity of these substances was unknown. It was concluded that in order to correct both these difficulties a change in the law was essential.

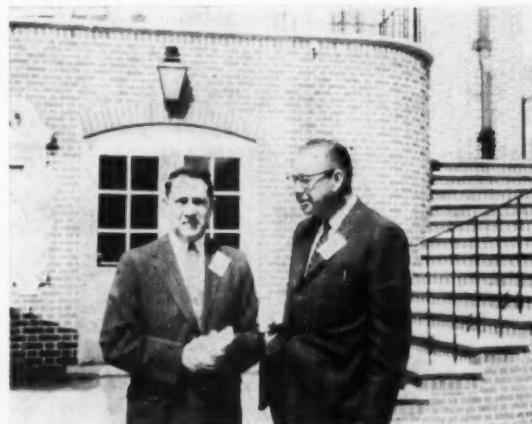
The amendments enacted last summer cover the following points:

1. All coloring materials are included. The term, coal-tar colors, is no longer used in the law.
2. The Commissioner is authorized to consider all proposed uses of colors, to list and certify them for particular uses, and to set tolerance limitations when needed for protection of public health.
3. Before a color additive can be listed, sound and adequate scientific proof must be presented that no consumer harm will result from the intended use.
4. Each batch of color additive must be certified as to purity before it can be marketed, unless it has been specifically exempted because such testing is not necessary to protect the public health.
5. No color which may be ingested can be listed if it is found to induce cancer when ingested by a man or animal. This is similar to the so-called "Delaney Clause" in the Food Additives Amendment.
6. No color additive can be approved for any use

## PMCA Conferees



Harry Baker, J. O. Whitten Co.; Bill Holtz, The Cracker Jack Company; Archie Cramer, F & F Laboratories; and Norman Bruce, Merckens Chocolate Company



Sam Blumenthal, Blumenthal Brothers Chocolate Company; and Dave Sykes, Plantation Chocolate Company



Joe Greninger, Henry Heide; and George Richardson, American Chicle Company

that will promote deception of the consumer, or otherwise result in adulteration or misbranding.

7. The Commissioner may allocate uses of a toxic color additive among the competing products where this is necessary for safe use.

8. There are provisions for a transitional period and for procedures under which color additives legally in use at the time the amendments were passed, can be certified while necessary scientific work is being done to support permanent listing of the color.

To implement this new amendment, regulations have been published to provide provisional lists of coal-tar colors which had been certifiable on July 11, 1960, and of non-coal-tar colors in commercial use prior to that date. With few exceptions the colors then in use can still be used today.

#### All uses not known

The provisional list of colors of other than coal-tar origin is incomplete. We do not know all the uses of these substances and, in many cases, lack data on their toxicity. We have asked for the help of the industry and some response has been received. It is apparent, however, that we shall need a great deal more information than we now have.

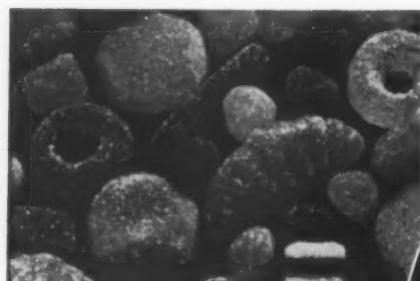
Under this amendment there is also the problem, similar to that on food additives, of obtaining data on toxicity within a limited amount of time. The amendment provides a 2-1/2 year period to make the necessary investigations of the provisionally listed color

additives and to get them on the permanent list. Although considerable pharmacological work has been done on the coal-tar colors during recent years, much work still remains to be done. For non-coal-tar colors the problem is even more formidable since less information is readily available on them.

#### FDA needs help

The Food and Drug Administration does not have the facilities to do the job alone, but if it is not done those color additives which are not on the permanent list at the end of the 2-1/2 year period will be illegal. As users of colors you candy manufacturers should have considerable personal interest in seeing that industry does its part. In fact, the petitioners are responsible for producing the facts necessary to establish the safety of color additives just as they are in the case of food additives.

Although at times it would appear that the countless individual problems on food additives and color additives will be with us forever, you can see that steady progress has been made. Looking back at the problems created by other changes in the Act, I can remember having similar feelings of near despair but ultimately the difficulties were surmounted and the problems were solved. While forecasting the future is a decidedly risky business I am sure that the time will come when these provisions of the Act will be as familiar to us as those we have been dealing with for 20 years.



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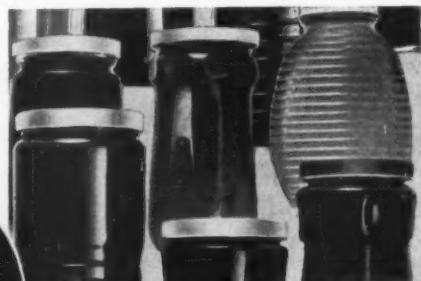
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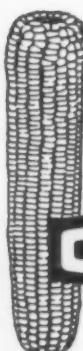
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## sales "Pointer"

In our book, the best sales "pointer" is a customer's finger aimed straight at your candy. If yours is the candy most often pointed to, chances are you're using CLINTON products to deliver sales-building flavor and texture. On the other hand, if you're trying to come up in the candy world, take a tip from the leaders. Gain a "sweeter" share of the market with CLINTON corn syrup, CLINTON starches and CLINTOSE brand dextrose.

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**41st Annual Convention**  
**Associated Retail Confectioners of North America**  
**The Drake Hotel—Chicago, Illinois**

**Sunday, June 11**

12 Noon	Convention Registration	French Room Foyer
1:00 P.M.	Grand Opening— Allied Trades Exhibit	Walton Room
5:30 P.M.	New Member Reception	French Room
6:30 P.M.	Joint Allied Suppliers Cocktail Party	French Room
7:30 P.M.	41st Annual House of Friendship Buffet Sup- per and Dancing Party	Gold Coast Room

**Monday, June 12**

8 A.M.	Complimentary Continental Breakfast	Walton Room
10:15 A.M.	Opening Business Session	Grand Ballroom
10:45 A.M.	Candy-Idea-Display Clinic	Grand Ballroom
1:15 P.M.	Luncheon	French Room
2:40 P.M.	Completion of Candy- Idea-Display Clinic	Grand Ballroom
3:45 P.M.	A. R. C. Annual Meeting	Grand Ballroom
7:30 P.M.	Candy and Chocolate Production Forum	Grand Ballroom

**Tuesday, June 13**

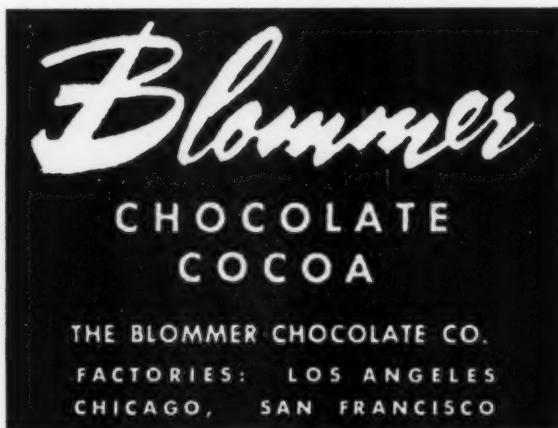
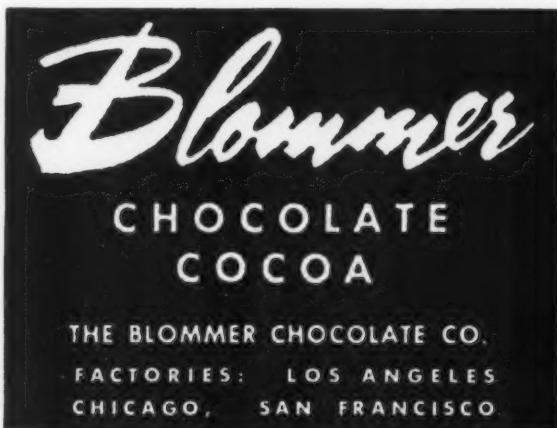
8 A.M.	Complimentary Continental Breakfast	Walton Room
10:15 A.M.	Business Session "The Chocolate Clinic"	Grand Ballroom
11:30 A.M.	Tour to Knechtel Laboratory Luncheon—Old Orchard Shopping Center Fannie May Candies "Candyhouse"	

One hour demonstration  
of chocolate tempering  
hand-dipping, enrobing,  
moulding, center making  
and other production  
operations under direc-  
tion of Herbert Knechtel  
at Knechtel Laboratories.

7:30 P.M.	Joint Allied Suppliers Cocktail Party	French Room
8:30 P.M.	41st Annual A. R. C. Dinner-Dance	Gold Coast Room

**Wednesday, June 14**

8 A.M.	Complimentary Continental Breakfast	Walton Room
10:15 A.M.	Business Session Candy Chocolate & Confectionery Institute Accomplishments Report	Grand Ballroom
11:15 A.M.	Packaging & Mail Order Clinic	Grand Ballroom
1:20 P.M.	Luncheon	French Room
2:40 P.M.	Business Session "Let's All SELL-E-BRATE" A dramatic skit on im- proved retail sales tech- niques presented by the Peppermint Stick Players under the direction of Donald J. Yannella, Loft Candy Corp., New York City, N. Y.	Grand Ballroom
4:00 P.M.	Adjournment	

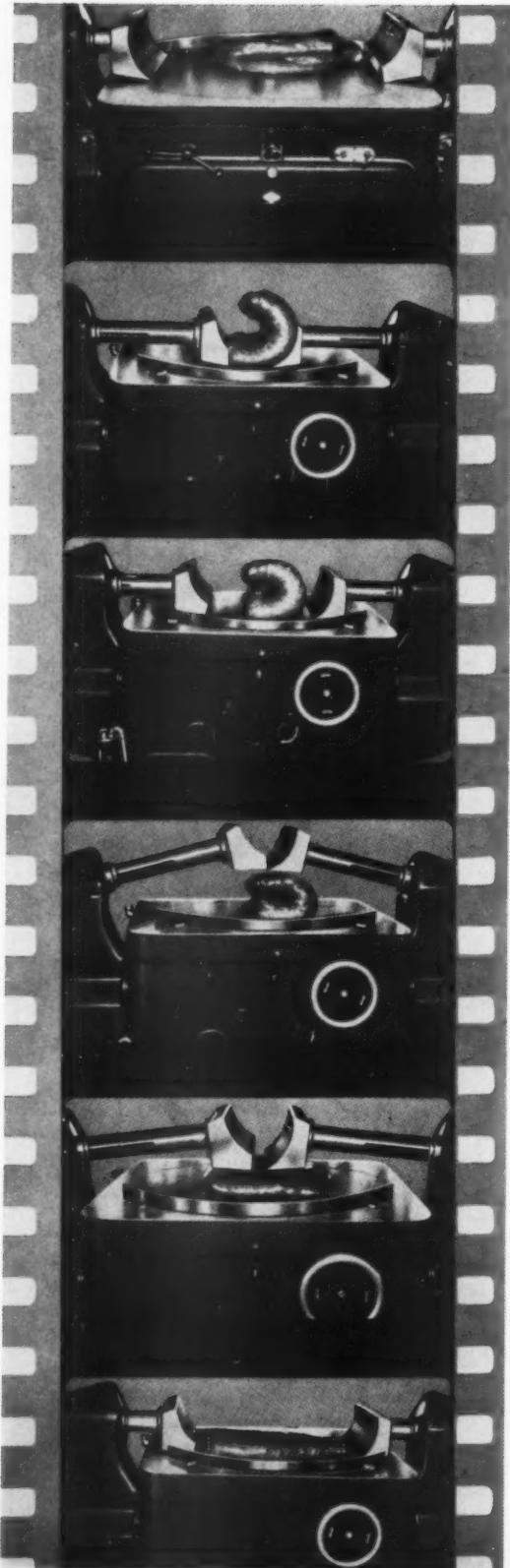


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# 78th Annual Convention

## National Confectioners Association

### Chicago, Illinois

#### Sunday, June 11

6:00 P.M. Sunday Evening Get-Together; "River-boat Jamboree"—Grand Ballroom, Conrad Hilton Hotel. Dinner and dancing.

#### Monday, June 12

9:00 A.M. National Confectioners Association Golf Tournament—Elmhurst Country Club, Elmhurst, Illinois

9:00 A.M. Joint technical session of the National Confectioners Association and American Association of Candy Technologists.—Illinois Institute of Technology, 33rd and State Streets, Chicago, Illinois.

9:00 A.M. Technical Film

9:30 A.M. Official Opening, Douglas S. Steinberg, President, N.C.A.

9:35 A.M. "Flavor Research and Food Acceptance"—Robert L. Swaine, Arthur D. Little, Inc.

10:30 A.M. "Status of Research on Confectionery Fats"—R. O. Feuge, Head, Edible Oils Investigation, U. S. Department of Agriculture.

11:00 A.M. "Are Industry-Sponsored Schools Worthwhile?"—Dr. Robert English, Director of Education, American Institute of Baking.

1:00 P.M. Luncheon  
"The Challenge of Science and Technology in Food Production", Imri J. Hutchings, Manager of Food Research, H. J. Heinz Co.

#### Tuesday, June 13

10:00 A.M. Official Welcome and Opening of the 78th Annual Convention—Douglas S. Steinberg, President, National Confectioners Association. Waldorf Room—Conrad Hilton Hotel

10:15 A.M. "A Progress Report on the Activities of the Candy, Chocolate, and Confectionery Institute." Ted Sills, The Theodore R. Sills, Inc.

11:10 A.M. Presentation of Policy Statements. Paul M. Beich, Chairman, NCA Policy Committee.

11:20 A.M. Visit the Exposition. David P. O'Connor, Chairman, NCA Exposition Committee.

11:25 A.M. "The Challenge of the Sixties is Political" Arthur H. "Red" Motley, Chairman of the Board, Chamber of Commerce of U.S.

12:30 P.M. Official Luncheon of the NCA 78th Annual Convention.

"Agriculture in the 1960's", The Honorable Orville Freeman, Secretary of Agriculture of the U.S.

#### Wednesday, June 14

8:00 A.M. Financial Management Breakfast, Beverly Room, Conrad Hilton—Albert Hinkle, Resident Partner, Ernst & Ernst, Chicago, Ill.

10:00 A.M. Second General Session, Waldorf Room—Conrad Hilton  
"Labor Relations and the Congress"—Robert T. Borth, General Electric Company.

10:40 A.M. "Confectionery Under the Pure Food Law"—Dr. John Harvey, Federal Food and Drug Commission

12:00 Noon Adjournment

7:30 P.M. Production Forum, Waldorf Room—Conrad Hilton  
Hard Candy: Dr. A. B. Cramer, F & F Laboratories  
Creams: Herbert Knechtel, Knechtel Laboratories  
Caramels & Fudges: Wesley Childs, Curtiss Candy Company  
Nougats & Marshmallows: John J. O'Rourke, Mars, Inc.  
Jellies & Gums: Vincent Detrano, Penick & Ford, Ltd.  
Candy Coatings: Dr. Ray F. Korfhage, Ambrosia Chocolate Co.

8:45 P.M. Questions and Answers

10:00 P.M. Adjournment

#### Thursday, June 15

10:00 A.M. Waldorf Room—Conrad Hilton  
"A Cocoa Report," Lem T. Jones, Russell Stover Candies, Inc.

10:30 A.M. The Sugar Situation  
Cane Sugar: Irving Hoff, United States Cane Sugar Refiners Assoc.  
Beet Sugar: Frank Kemp, Great Western Sugar Company

11:30 A.M. Adjournment of general meeting.

11:35 A.M. Executive Session—NCA Active Members Action on Policy Statements, Paul M. Beich, Chairman, NCA Policy Committee

12:30 P.M. Adjournment of Convention

8:00 P.M. Annual NCA Dinner Dance

# COZEEN COAT

For Long Shelf Life

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- A Nutritive Vegetable Protein Glaze for Nuts and Confections.
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## Directory of Exhibitors

### National Confectioners Association Exhibition

June 12 to 15, 1961

#### The Conrad Hilton—Chicago

Note: The information in the above list was supplied by exhibitors and is complete as of our press time. Bold face listings indicate advertisers in this issue. See our advertisers' index, Page 114, to locate these advertisements which will give information on the exhibits in greater detail.

Exhibition hours:

Mon. 2:00 p.m. to 8:00 p.m.  
Tues. 1:00 p.m. to 6:00 p.m.  
Wed. 1:00 p.m. to 8:00 p.m.  
Thurs. Noon to 5:00 p.m.

**Amaco, Incorporated**, 2601 West Peterson, Chicago 45, Illinois. Booth 201A. Displaying: Aasted continuous automatic tempering machine, Agathon chocolate molds for automatic moulding plants. In Attendance: Gerald Ziffer.

**Ambrosia Chocolate Co.**, 528 West Highland, Milwaukee 3, Wisconsin. Booth 308. Displaying: chocolate. In Attendance: L. Russell Cook, J. J. Tellier, R. F. Korfhage, Al Kirschenbaum, Wain Lynfoot, John Wright, Harvey Kirschenbaum, Mike Reddick, Wain Lynfoot, Jr., Andy Anderson, Clarence Sancken, Jack Key, M. K. Woodhouse, G. G. Gillette.

**American Maize-Products Co.**, 250 Park Avenue, New York 17, New York. Booth 302.

**American Viscose Corp.**, Film Division, 1617 Pennsylvania Blvd., Philadelphia 3, Pennsylvania. Booth 208. Displaying: Production performance, product protection and printing of Avicos cellophanes. In Attendance: R. E. Reynolds, E. E. Ruggles, J. H. Adams, R. O. Barfoot, L. M. Leonard, G. Dyslin, C. R. Shaffer, H. J. Price, H. S. Hart.

**Anheuser-Busch, Inc.**, 721 Pestalozzi Street, St. Louis 18, Missouri. Booth 206. Displaying: corn syrups and starches. In Attendance: Richard F. Amacher, Harry A. Best, Jr., Frank V. Voyda, Robert T. Regan, Raymond L. Haffey, Herman Saussele, Jr., Anton H. Luetkemeyer.

**Atlantic Gelatin**, Div. General Foods Corp., Hill Street, Woburn, Massachusetts. Booth 28.

**Atlantic Paper Box Co.**, 270 Albany St., Cambridge, Massachusetts. Booth 45A. Displaying: valentine heart boxes and other novelty candy boxes. In Attendance: Louis S. Cole, Israel Polansky.

**Atlas Powder Company**, Wilmington 99, Delaware. Booth 8. Displaying: Sorbo (70% sorbitol solution) and Span 60 and Tween 60, emulsifiers. In Attendance: G. S. Cripps, J. T. Zolper, W. H. Knightly, C. E. McLaughlin, A. S. Geisler, W. R. Lucas, C. D. McGrath, E. J. Costello, C. S. Rowe, W. E. Wimble, J. F. Elward.

**Automation Engineering Laboratory, Inc.**, 84 Commerce Road, Stamford, Connecticut. Booth 408. Displaying: automation consulting and machinery development services. In Attendance: R. S. White, C. T. Raymond.

**Franklin Baker Coconut Division**, General Foods Corp., 15th & Bloomfield Sts., Hoboken, New Jersey. Booth 305. Displaying: coconut. In Attendance: Richard Laster, Graham T. Brown, M. E. Ruehmund, W. L. Bonney, A. E. Olson, R. E. Schier.

**Walter Baker Division**, General Foods Corp., Pierce Square, Dorchester 24, Massachusetts. Booth 205.

**The Blommer Chocolate Company**, 600 West Kinzie Street, Chicago 10, Illinois. Booth 1. Displaying: chocolate coating, cocoa powder, chocolate holding tanks, chocolate tempering tubes.

**Blumenthal Bros. Chocolate Co.**, Margaret & James Sts., Philadelphia 37, Pennsylvania. Booth 36. In Attendance: Bernhard S. Blumenthal, Samuel Blumenthal, Lawrence Blumenthal, Hobart J. Thurber, Hobart J. Thurber, Jr., Clyde W. Sternberger, Robert Pariente, William Whelan.

Brazil Nut Advertising Fund, 100 Hudson St., New York 13, New York. Booth 41. Displaying: Brazil nuts. In Attendance: Mr. & Mrs. T. R. Schoomaker, Mrs. E. J. Carow.

**Jabez Burns & Sons, Inc.**, 11th Ave. & 43rd St., New York 36, New York. Booth 27. Displaying: two types of vibrating chocolate sieves, varied display of chocolate molds, Gump Bar-Nun rotary sifter, Gumpco net weigher, and photographic display. In Attendance: A. E. Hawkins, D. B. Spence, Rudy Hoffmann, D. C. Creighton, C. S. Thomson, E. J. Miller, Rose Warner.

**Burrell Belting Company**, 7501 N. St. Louis Ave., Skokie, Illinois. Booth 44. Displaying: glazed tunnel belts and plaques, endless belts, Buna N and Neoprene, Packing belts, wrapping machine belts, cleated and wire belting, caramel cutter belts and boards. In Attendance: James A. Linn, Howard K. Gage, Dale Dirkswager, Andy Pusateri, Dick Nelson, John Mayer.

**Cacao Barry, Inc.**, 366 Madison Ave., New York 17, New York. Booth 16. Displaying: National and Dutch processed cocoa powders. In Attendance: Paul P. Ashley.

**California Almond Growers Exchange**, P. O. Box 1768, Sacramento 8, California. Booth 202. Displaying: almonds and almond candies. In Attendance: W. Glenn Stalker, Dale Morrison, Jack Axer and A. J. Moake.

**Candy Industry and Confectioners Journal**, 660 Madison Avenue, New York 21, New York. Booth 512.

**Caravan Products, Inc.**, 35 Eighth Street, Passaic, New Jersey. Booth 101A.

**Carle & Montanari, Inc.**, 95 Temple Avenue, Hackensack, New Jersey. Booth 306. Displaying: cocoa ring mill—Lehmann, truffle cutter automatic, new hard candy filling machine—C&M. In Attendance: Rod Grace, Ted Merckens, Caesar Mascherin.

**Fred S. Carver, Inc.**, 1 Chatham Road, Summit, New Jersey. Booth 26. Displaying: cocoa presses. In Attendance: Charles D. Meylan.

**Chocolate Spraying Co., Inc.**, 2035-39 W. Grand Ave., Chicago 12, Illinois. Booth 406. Displaying: A completely new continuous motion twist wrapping machine. In Attendance: Leo Latini, John Latini, Edmund Latini, Gilbert Holmberg.

**W. A. Cleary Corporation**, Box 749, New Brunswick, New Jersey. Booth 45B. Displaying: Clearate lecithin, Clearlube release agent, Clearfla butter flavor, Clearate F for compound coatings and Clear-Color color concentrate paste. In Attendance: Leo Cleary, Dr. Paul Sartoretti, W. A. Cleary, and George Boehm.

**Clinton Corn Processing Company, A Division of Standard Brands, Inc.**, Clinton, Iowa. Booth 504. Displaying: complete line CSU confectionery starches, Clintose brand dextrose. In Attendance: H. A. Bendixen, A. C. Junge, R. H. Jackson, D. R. Reed, R. J. Ferguson, W. P. Hoaster, R. C. Rau, E. C. Alderson, T. R. Miller, George Heath, E. D. Cotral.

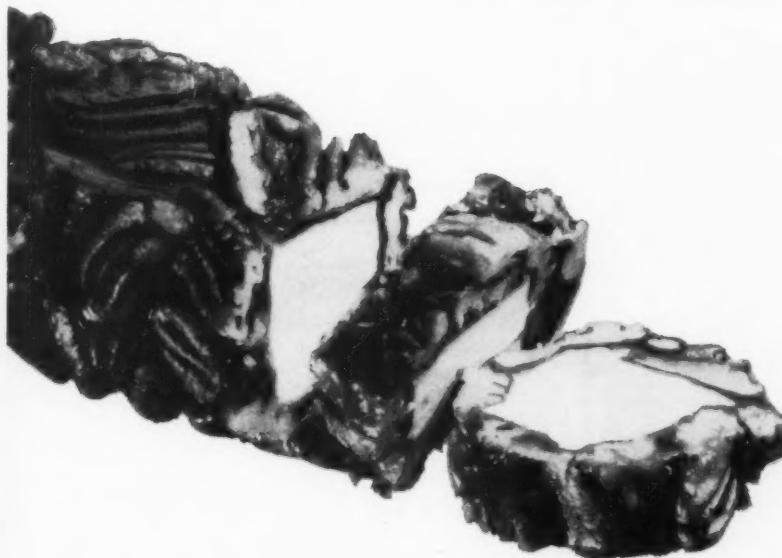
**The Confectioner**, 728 North Jefferson, Milwaukee 2, Wisconsin. Booth A.

**Corn Products Company**, 10 East 56th Street, New York 4, New York. Booth 14 & 15. Displaying: relief models of bulk liquid handling system and a bulk dry handling system, liquid sweetener, Cerelose, Mor-Sweet corn syrup, MorSweet hard candies to be made by Howard Wolfmeyer. In Attendance: D. R. Anderson, C. A. Cravens, J. J. De Sylvester, Dr. C. M. Gooding, S. D. Goodman, P. J. Clark, I. V. Gage, P. X. Hoynak, Dr. Katheryn Langwill, I. Parnes, E. W. Beardsley, R. W. Bond, D. K. Brickley, T. C. Clawson, J. J. Jones, J. M. Krno, A. N. McFarlane, M. D. Mullin, H. Plimpton, J. E. Walz, E. E. Alt, D. W. Bridges, R. F. Cohee, J. P. Driscoll, C. J. Falvey, W. F. Fiedler, H. J. Heinstadt, Roberts, E. C. Snyder, C. R. Waters, W. S. Winter, H. J. Wolfmeyer.

**Dairy Maid Products**, 1243 North Eleventh, Eau Claire, Wisconsin. Booth 507A. Displaying: milk powder, buttermilk powder. In Attendance: Joe Schwebach, Owen K. Hallberg. **Diamond Match Division, Diamond National Corp.**, Greenwich, Connecticut. Booth 101B. Displaying: paper candy sticks, ice cream sticks. In Attendance: I. H. Koenig, J. M. Guilfoyle, R. P. Hanafee.

**Diamond Walnut Growers, Inc.**, P. O. Box 1727, Stockton 1, California. Booth 104. Displaying: various grades of bulk shelled walnuts. In Attendance: George W. Dapson, James D. Wheat, John T. O'Leary.

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**Because:** they're high oil content pecans—bright, full-meated and firm, with the delicate flavor of freshly shelled pecans.

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**E. I. du Pont de Nemours & Co. (Inc.)**, Film Dept., 10th & Market Streets, Wilmington 98, Delaware. Booth 303. Displaying: new directions in candy packaging with Du Pont cellophane. In Attendance: H. D. Chickering, J. A. Pie, R. E. Clark, C. O. McKenna, H. L. Taylor, B. C. Robbins, J. K. Goundie, W. J. Yerkes.

**Durkee Famous Foods**, 88-06 Van Wyck Expressway, Jamaica, L. I., New York. Booth 404.

**The Edson Company**, 4450 Austin Boulevard, Island Park, L. I., New York. Booth 12. Displaying: artificial candy, jumbo 6 foot bars. In Attendance: Jerome Edson.

**Electric Sorting Machine Co., Division Mandrel Industries, Inc.**, 5134 Glenmont Drive, Houston, Texas. Booth 304. Displaying: peanut candy stock photoelectric sorting machine. In Attendance: R. T. Miller, T. G. Gilbert.

**Euromac, Inc.**, 61 Grand Avenue, Palisades Park, New Jersey. Booths 20, 21, 22, 23. Displaying: Euromac-Sapal BN-f wrapping machine, Euromac-Bauermeister Z-12 masse cleaner. In attendance: Kurt Beyertz, Joseph L. Raffetto, Jr., C. G. Cockinos, W. J. Kamp, Guenther Schmidt, J. Collins, George B. Hislop, Jack Green.

**Great Western Manufacturing Company**, Leavenworth, Kansas. Booth 45C. Displaying: Tru-Balance starch sifter. In Attendance: Mr. & Mrs. J. E. Baker.

**J. W. Greer Company**, Main & Eames Streets, Wilmington, Massachusetts. Booth 410.

**Gunther Products, Inc.**, 701 West Sixth Street, Galesburg, Illinois. Booth 4. Displaying: G-400 whipping proteins. In Attendance: Ken Gunther, Bob Gunther, Ray Turner & Sam Kostelnik.

**Otto Haensel Machine Company, Inc.**, (Hannover, West Germany), 60 East 42nd St., New York 17, New York. Booths 209 & 210. Displaying: candy manufacturing equipment and automatic wrapping machinery including Model HFK 55D fondant plant and HBX, HN-N wrapping machines. In Attendance: R. W. Hauenstein, C. F. Moulton, Hans Kruse, Emil Franke, William Crothers, Eric Brent.

**Hamae-Hansella Machinery Corp.**, Grand & Ruby Avenues, Palisades Park, New Jersey. Booths 20, 21, 22, 23. Displaying: 19K batch former, 65D rope sizer, 160A Uniplast, 135B robot cooker, 126D Solvomat, Model 25/30 candy wrapper. In Attendance: Kurt Beyertz, Joseph L. Raffetto, Jr., C. G. Cockinos, Guenther Schmidt, W. J. Kamp, J. Collins, George Hislop, Jack Green.

**Hooton Chocolate Company**, 339/361 North 5th Street, Newark 7, New Jersey. Booth 7. Displaying: chocolate coatings, liquors and compound coatings. In Attendance: G. B. Dodd, E. J. Teal, Lloyd S. Fiscus, Roger C. Hubbard, Frank J. Wolf, Jr.

**The Hubinger Company**, 601 Main Street, Keokuk, Iowa. Booth 3. Displaying: samples of OK brand corn syrup, OK brand confectioners starches, OK brand Dri-Sweet corn syrup solids and product information. In Attendance: R. S. Fisher, R. L. Krueger, L. C. Watson, H. J. Jackson, H. L. Bentz, A. M. Robinson, G. R. Underwood, J. E. Boyle, J. T. Flahiff, H. S. Brightman, C. H. Lawrence, D. L. Tiger, M. D. Zauke, J. A. Maddox, R. H. Bublitz, J. T. Wallenbrock.

**International Foodcraft Corp.**, 184 North 8th Street, Brooklyn, New York, Booth 102. Displaying: Confecto-Spred, Confecto-Spray, Confecto-Rub, Confecto-Lac. In Attendance: Philip Katz, Ray Owens.

**J. A. Joffe & Co., Inc.**, 206 South 13th Avenue, Mt. Vernon, New York. Booth 513. Displaying: sugar candy decorations, icing flowers, religious and holiday symbols. In Attendance: Mr. & Mrs. Roland D. Joffe, Mr. & Mrs. Daniel E. Joffe.

**A. Klein & Company, Inc.**, 113-119 West 17th Street, New York 11, New York. Booth 40.

**H. Kohnstamm & Co., Inc.**, 161 Sixth Avenue, New York, New York. Booth 204.

**J. M. Lehmann Company, Inc.**, 550 New York Avenue, Lyndhurst, New Jersey. Booth 29. Displaying: chocolate making machinery. In Attendance: C. W. Muller, W. Grale, H. Mierswa.

**The Manufacturing Confectioner**, 418 North Austin Blvd., Oak Park, Illinois. Booth 39. Displaying: The Manufacturing Confectioner magazine, The Candy Buyers' Directory, Purchasing Executives' Directory, books on confectionery manufacturing. In attendance: Mrs. P. W. Allured, Jim Allured, Stanley Allured, Al Allured, David Glenn, Mrs. D. Seelman, Janet Northrop, Mary Aslesen, Mrs. W. Patterson.

## Confectionery Analysis and Composition

by **Stroud Jordan and Kathryn E. Langwill**

This volume, first published in 1946, is still the only published reference work on the subject of confectionery analysis. It concerns itself with applicable data that covers composition of basic raw materials as well as that of the finished confections in which they have been employed.

116 pp. — \$6.00

## Confectionery Problems

(*Confectionery Studies, Number 1*)

by **Stroud Jordan**

Stroud Jordan's reputation as an important candy technologist is based on this his first book. Published in 1930 it is still, in many areas, the final word on technology in the industry. Jordan's sense of responsibility to record his discoveries and knowledge for the benefit of the industry caused him to produce more writings on the technical and scientific aspects of candymaking than any other person in the field. The recognition given him in the form of the establishment of the Stroud Jordan Medal by the American Association of Candy Technologists rests on this sense of responsibility.

347 pp. — \$6.00

## A Textbook on Candy Making

by **Alfred E. Leighton**

Here is a textbook where the reader can learn the basic fundamentals of candy making, the "how" and "why" of the various operations in non-technical terms. Particular attention is given to the function of raw materials, and why each is included in a formula.

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## Choice Confections

by **Walter Richmond**

This book, now in its second printing, is written primarily for the manufacturing retailer. It contains 365 formulas given in two batch sizes, one for hand work and one for machine work. All of these formulas have been production tested and have proven to be of great help to manufacturing retailers in varying old items and developing new ones. The book also contains a glossary of candy terms and chemical terms, a complete chapter on chocolate coating methods and a chapter on ingredients and their uses. It is an important and useful book for all manufacturing retailers.

544 pp. — \$10.00

- Confectionery Analysis and Composition—\$6.00
- Confectionery Problems—\$6.00
- A Textbook on Candy Making—\$6.00
- Choice Confections—\$10.00

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Marathon, Division of American Can Co., Menasha, Wisconsin. Booth 6. Displaying: New developments in wrappers and cartons, base materials of paper, paperboard, films and foils, examples of all types of printing from one color to multi-color by four different processes. In Attendance: Bob Clark, Jim Davis, Phil Rundquist, Don Anderson, Stan Wyss.

Martin Engineering Company, U. S. Route #34, Neponset, Illinois. Booth 17. Displaying: Vibrolator vibration inducers for moving granular materials in hoppers, bins and chutes. In Attendance: Edwin H. Peterson Jr., Edwin F. Peterson, Sr., Mauritz Peterson, John Schultz.

Merrill Lynch, Pierce, Fenner & Smith, 70 Pine Street, New York 5, New York. Booth 10.

Merckens Chocolate Co., Inc., 155 Great Arrow Avenue, Buffalo 7, New York. Booth 505. In Attendance: G. Norman Bruce, Harvey W. Merckens, William E. Merckens, James P. Gray, H. J. Nelson, Adolph Stankus, Gardner E. Beach, Charles V. Letourneau, Edward B. Hebden, Edward C. Buchanan.

Mikrovaerk A/S, 32-38 Sydmarken, Copenhagen, Soborg, Denmark. Booth 508. Displaying: information on automatic chocolate moulding equipment. In Attendance: Karl Magnusen, Erik Bokkenheuser.

Milprint, Inc., 4200 North Holton Street, Milwaukee 1, Wisconsin. Booth 402.

Molded Fiber Glass Tray Co., Linesville, Pennsylvania. Booth 507B. Displaying: stock boxes, stacking boxes, tote boxes, trays. In Attendance: B. E. Ewing, Jr., Carl Hornkohl, Alan Henry, Harold Osgood.

Murnane Paper Company, 1510 North Kostner Avenue, Chicago 51, Illinois. Booth 38. Displaying: all types of box, bag and bulk partitions, dividers and layerboards, custom grease-proof coatings. In Attendance: F. J. Murnane, J. Hobie Murnane, Denis Johnson, Frank Keegan, John Murnane, John Gould, John McKittrick, Walter Flintrup, Robert Walsh, John Raftery.

National Equipment Corp., 153-157 Crosby St., New York 12, New York. Booths 31, 32, 33, 34, 35. Displaying: CM2000 mogul, staggered row pump bars, 24" bonbon enrober, continuous cooker, Short-A-Matic case sealer, stainless steel revolving pan, 12" enrober, laboratory mixer. In Attendance: Charles Balin, Charles Greenberg, William Kopp, Richard Greenberg, Robert Greenberg, Alan Carter, Otto Frank.

The Nestle Company, Inc., 100 Bloomingdale Road, White Plains, New York. Booth 510.

The Nulomoline Division, American Molasses Company, 120 Wall Street, New York 5, New York. Booth 203. Displaying: Nulomoline (standardized invert sugar), Convertit (standardized invertase), Sucrest liquid sugars, Grandma's, Rosemer light and #112 molasses, special summer candies. In Attendance: James A. King, Frederic J. Janssen, Frank E. Trager, Irving L. Cook, E. F. Widmayer, C. A. Bailey, Karl C. Fromm, Andrew L. Taylor, William R. Wolf, Albert R. Gibbon, Robert J. Saseman, Jr., Charles B. Broeg.

Package Machinery Company, East Longmeadow, Massachusetts. Booth 103. Displaying: information on candy wrapping and making machines. In Attendance: L. A. Curtis, H. Mosedale, Jr., F. L. Schrade, J. Hart, L. L. Campbell, K. F. Newell, L. E. Evans, E. A. Hjelm, T. L. Jefferson, M. Neis, W. H. Keil, R. S. Blumer, R. Boyle

Penick & Ford Ltd., Inc., 750 Third Avenue, New York 17, New York. Booth 2. Displaying: corn syrup, corn starch. In Attendance: O. H. Tousey, D. P. O'Connor, L. S. Poer, W. S. Russell, P. G. Wear, F. J. McCrosson, S. F. McLaren, J. A. Kooreman, Vincent Detrano, D. C. Cahoon, W. J. Brown. Quincy Paper Box Co., 230 North Third St., Quincy, Illinois. Booth 9. Displaying: fancy candy boxes for year around, Valentine and Christmas. In Attendance: Paul Jochem, M. A. Jochem.

Reynolds Metals Company, 3rd & Grace Streets, Richmond 18, Virginia. Booth 511. Displaying: Reybar aluminum foil for bar wraps, embossed aluminum foil for frozen candy, foil gift wrapping and shrinkable polyvinyl chloride film for overwrapping. In Attendance: Ronald M. Ayer, Frank E. Liebert.

Round Tubes & Cores Co., 806 N. Peoria St., Chicago, Illinois. Booth 13. Displaying: transparent novelty candy packages. In Attendance: Leon Levinthal, Miriam Levinthal, Walter Nathan, Harold Davis.

Savage Bros. Co., 2638 Gladys Ave., Chicago 12, Illinois. Booth 108. Displaying: Model S-48 fire mixer, continuous hard candy cutter, 18" copper revolving pan, Herald forced draft gas furnace. In Attendance: Richard J. Savage, Jr., M. J. Linden, R. W. Emerson, W. P. Halpin.



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F. J. Schleicher Paper Box Co., 1811 Chouteau Avenue, St. Louis 3, Missouri. Booth 405. Displaying: Valentine heart boxes. In Attendance: Robert A. Smiley, William J. Engel, Eugene R. Darrt, John L. Smiley.

Selected Brands Co., Inc., 1133 Broadway, New York 10, New York. Booth 105. Displaying: Hilliard chocolate coater, Cass exact weight chocolate mold filler, candy stirrer. In Attendance: Alan Hilliard, Alfred B. Cassidy, Jr., Alfred B. Cassidy, Sr.

Setter Brothers, Inc., Cattaraugus, New York. Booth 11.

W. C. Smith & Sons, Inc., 2539 North 9th St., Philadelphia 33, Pennsylvania. Booth 503. Displaying: chocolate coating machine, chocolate melting & tempering machine, plastic cream center former, Space-Saver box packing machine, liquid cream depositor. In Attendance: W. C. Smith, Jr., S. Chas. Jacques, Ted Merckens, Les Drusendahl, Jack Green, Wm. A. Medicott.

Specialties Appliance Corp., 1210 W. Van Buren Street, Chicago 7, Illinois. Booth 501. Displaying: specialty nut roaster

and continuous fryer. In Attendance: Richard T. Keating, Frank Mistretta.

A. E. Staley Manufacturing Company, Decatur, Illinois. Booth 407. Displaying: complete range of starches, syrups and lecithin products. In Attendance: L. E. Doxie, J. H. Beaumont, N. K. Hammer, W. D. Ray, L. G. Tremel, J. W. Robinson, O. D. Sutter, R. R. Dombroski, G. M. Donelan, L. D. Borden, R. E. Harroun, E. H. Schrader, A. W. Brunlieb, R. S. Alverson, K. K. Dunlap, Jr., F. A. Peterson, L. W. Rapp, R. E. Smith, T. P. Thye.

Standard Brands, Inc., 625 Madison Avenue, New York 22, New York. Booth 106.

Sugar Information, Inc., 52 Wall Street, New York 5, New York. Booth 403.

Stanley Woodworkers, Inc., Stanley, Wisconsin. Booth 19. Displaying: complete line of wooden confectioners trays including Metal-Free starch trays. In Attendance: R. W. Melville.

Supermatic Packaging Corp., 979 Lehigh Avenue, Union, New Jersey. Booth 310. Displaying: Model 2400, candy wrapping machine, Model 2500, candy wrapping machine. In Attendance: Benedict R. Marfuggi, John Lambertini.

The Triumph Manufacturing Co., 3400 Spring Grove Ave., Cincinnati 25, Ohio. Booth 207. Displaying: 16: Candy Maid, plaque type depositor, 24" Kandy Kraft, belt type depositor, L2, 60 qt. vertical mixer, N1, 20 qt. bench mixer and bench stand. In Attendance: Paul E. Heckel, Del C. Williams.

U-Cop-Co Gelatin, United Chemical & Organic Products, Plummer Street and Wentworth Avenue, Calumet City, Illinois. Booth 42. Displaying: gelatin. In Attendance: R. F. Arnold, J. Manzo, C. W. Palmer, R. A. Clarke, R. C. Grant, J. Marconi, G. F. Weyand, R. L. Pozorski, M. W. Krayer, G. F. Kostal, G. W. Schmidt.

Union Confectionery Machinery Co., Inc., 318 Lafayette Street, New York 12, New York. Booth 30.

Union Sales Corporation, 301 Washington Street, Columbus, Indiana. Booth 401. Displaying: corn syrup, corn starch, caramel color. In Attendance: H. E. O'Shaughnessy, J. A. McLean, J. M. Sutton, D. Foster, W. W. Bissell, W. Sharp, G. W. Anderson, G. Grathen, William Naylor, L. S. Barnhart.

Voss Belting & Specialty Co., Inc., 5645 Ravenswood Avenue, Chicago 26, Illinois. Booth 37.

Weber Marking Systems, Div. of Weber Addressing Machine Co., Inc., Mt. Prospect, Illinois. Booth 201B. Displaying: hand-printers for direct-to-carton marking and label printing machines. In Attendance: J. B. Crassweller, Tom Wagner, Roger Davies, Art Wagner, Dan Kuby, Bill Darras, Chuck Mangan.

White-Stokes Company, 3615 South Jasper Place, Chicago 8, Illinois. Booth 5. Displaying: Superkreme, Whistopel, Fondax, Pattie fondant, coconut paste, invertase, flavors. In Attendance: Charles A. Dillon, James R. Giannotti, Emery J. Stevenson, A. N. Tzakis, J. E. Seller, E. L. Semersky, M. Matheson, D. D. Moseley, W. W. Kearney, Mrs. A. N. Tzakis.

J. O. Whitten Co., Inc., 134 Cross Street, Winchester, Massachusetts. Booth 107. Displaying: extruded and flavored marshmallows. In Attendance: W. I. Gorfinkle, Harry O. Baker.

Wilbur Chocolate Co., 48 North Broad Street, Lititz, Pennsylvania. Booth 43. Displaying: chocolate coatings, liquors and cocoa powders. In Attendance: C. S. Grube, Fred Baehr, R. G. Kenny, D. G. Marks.

The Woodman Company, Inc., 847 E. College Avenue, Decatur, Georgia. Booth 409. Displaying: Fleet weigh model L, LoFeeder model K and Econo-weigh model C. In Attendance: Paul Parker, Bob Cess, Jess Herrick.

Wright Machinery Co., Division of Sperry Rand Corporation, P. O. Box 2211, Durham, North Carolina. Booth 24 & 25. Displaying: Wright model M-2 weigher with Hansella Transwrap, Wright junior weigher. In Attendance: A. N. Wiley, H. C. Smith, I. P. Ritschel, J. B. Mahoney.

Exhibition hours:

Mon. 2:00 p.m. to 8:00 p.m.

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JUNE-JULY  
AUGUST  
SEPTEMBER  
OCTOBER  
NOVEMBER  
DECEMBER

Du

for June

# Candy Clinic

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of The MANUFACTURING CONFECTIONER.

## Chocolate Bars

### Code 6C1

#### Toasted Almond Bar 2 1/4 ozs.—10¢

(Sent in for analysis)

Appearance of Bar: Good

Size: Good

Wrapper: Tin foil printed in red, gold and black.

Light Coating: Good for a 10¢ bar

Center:

Color: Good

Texture: Good

Almonds: Good

Taste: Good

Remarks: The best 10¢ almond nougat bar we have examined this year at 10¢.

### Code 6D1

#### Milk Chocolate Bar about 1 1/2 ozs.—10¢

(Purchased at a candy counter,  
Toronto, Canada)

Appearance of Bar: Good

Size: Good

Wrapper: Inside gold foil wrapper, outside paper band, white printed in gold and blue.

Bar: Milk Chocolate

Color: Good

Molding: Good

Texture: Good

Taste: Good

Remarks: One of the best milk chocolate bars we have examined this year.

### Code 6E1

#### Cherry Cream Patties 2 ozs.—10¢

(Purchased at a candy counter,  
Toronto, Canada)

Appearance of Package: Good

Container: Folding flat oblong box, white printed in red, green. Imprint of girl picking cherries in color.

Patties: Box contained two patties wrapped in foil.

Dark Coating: Good

Center:

Color: Good

Texture: Good

Flavor: See remarks

Remarks: Suggest a better cherry flavor be used to give a patty a good strong cherry taste. Flavor is entirely too weak.

### Code 6F1

#### Jelly Roll 3 ozs.—10¢

(Purchased at a candy counter,  
Toronto, Canada)

Appearance: Good

Size: Good

Wrapper: Cellulose wrapper, paper seal printed in red, white and green.

Jellies: 9 pieces. See remarks

Colors: Good

Sanding: Good

Texture: Good

Flavors: Good

Remarks: Piece is not a jelly; it is a starch gum. The best flavor we found in this type of confection this year.

### Code 6A1

#### Coffee Cream Filled Biscuit Bar about 1 1/4 ozs.—10¢

(Purchased at a candy counter,  
Toronto, Canada)

Appearance of Bar: Good

Size: Good

Wrapper: Inside foil wrapper, outside brown glassine paper wrapper printed in red and black.

Bar: Bar is made up of two crackers top and bottom, center is a coffee flavored cream.

Remarks: A good eating bar but lacked a good coffee flavor.

Light Coating: Good

Crackers: Good

Center: Good

Color: Good

Texture: Good

Flavor: Very light

## Candy Clinic Schedule For the Year

JANUARY—Hard Candies

FEBRUARY—Chewy Candies; Caramels; Brittles

MARCH—Assorted Chocolates up to \$1.15

APRIL—\$1.20 and up Chocolates; Chocolate Bars

MAY—Easter Candies; Cordial Cherries

JUNE—Marshmallows; Fudge

AUGUST—Summer Candies

SEPTEMBER—Uncoated & Summer Coated Bars

OCTOBER—Salted Nuts; Gums & Jellies

NOVEMBER—Panned Goods; 1¢ and 2¢ Pieces

DECEMBER—Best Packages and Items of Each Type Considered

During the Year.

**Code 6B1**  
**Caramel Almond Bar**  
**1 1/4 ozs.—5¢**

(Sent in for analysis)

**Appearance of Bar:** Good

**Size:** Good

**Wrapper:** Glassine printed in red, gold and brown.

**Bar:**

**Light Coating:** Good for a 5¢ bar.

**Center:**

**Color:** Good

**Texture:** Good

**Almonds:** Good

**Taste:** Good

**Remarks:** A good eating caramel and al-

mond bar; the best we have examined this year at 5¢.

**Code 6R1**  
**Orange Butter Mints**  
**7 ozs.—25¢**

(Sent in for analysis)

**Appearance of Package:** Good

**Container:** Cellulose bag printed in red, white and green.

**Mints:**

**Color:** Good

**Texture:** Good

**Flavor:** Good

**Size of Piece:** Good

**Remarks:** The best mints of this type

we have examined this year. Attractive printing on bag.

**Code 6S1**  
**Jelly Butter Mints**  
**9 ozs.—29¢**

(Sent in for analysis)

**Appearance of Package:** Good

**Container:** Cellulose bag printed in green, red and white.

**Mints:**

**Color:** Good

**Texture:** Good

**Flavor:** Good

**Size of Piece:** Good

**Remarks:** The best piece of this kind we have examined this year. Attractive printing on bag.

**Code 6T1**  
**Molasses Butter Mints**  
**7 ozs.—25¢**

(Sent in for analysis)

**Appearance of Package:** Good

**Container:** Cellulose bag printed in green, red and white.

**Mints:**

**Color:** Good

**Texture:** Good

**Flavor:** Fair

**Size of Piece:** Good

**Remarks:** Flavor is too weak. There is a very fine molasses powder on the market; it will give the piece a good strong molasses flavor.

**Code 6W1**  
**Caramel and Peanut Bar**  
**1 1/4 ozs.—5¢**

(Sent in for analysis)

**Appearance of Bar:** Good

**Size:** Good

**Wrapper:** Glassine paper printed in gold, yellow and brown.

**Bar:**

**Light Coating:** Good for a 5¢ bar

**Center:** Caramel and peanuts

**Color:** Good

**Texture:** Good

**Peanuts:** Good

**Taste:** Good

**Remarks:** The best bar of this type we have examined this year at the price of 5¢.

**Code 6X1**  
**Walnut Nougat Bar**  
**2 1/2 ozs.—10¢**

(Sent in for analysis)

**Appearance of Bar:** Good

**Size:** Good

**Wrapper:** Glassine printed in silver and blue.

**Bar:**

**Dark Coating:** Good for a 10¢ bar.

**Center:** Nougat

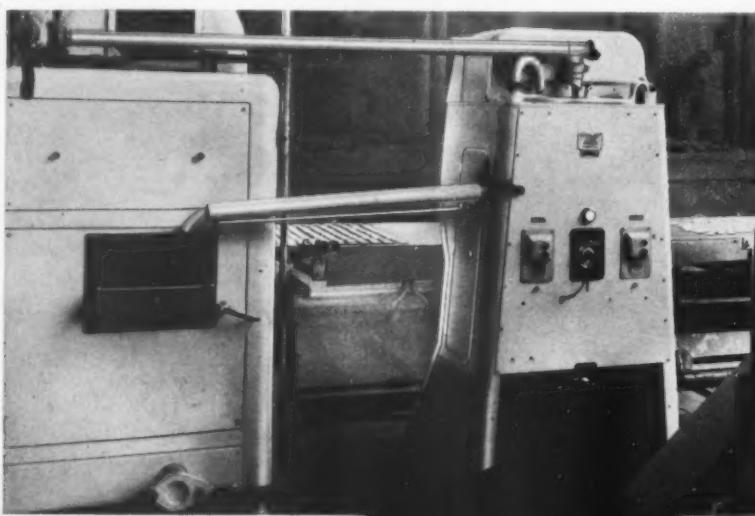
**Color:** Good

**Texture:** Good

**Walnuts:** Good

**Taste:** Good

**Remarks:** A good eating nougat bar, one of the best we have examined this year.



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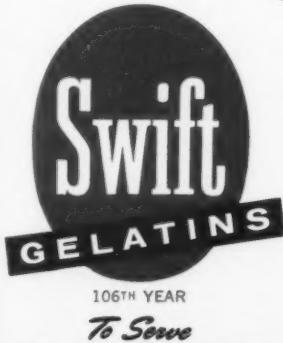
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**Code 6J1**  
**Peanut Chew Bar**  
**2 1/4 ozs.-10¢**

(Purchased at a candy counter,  
Toronto, Canada)

**Appearance of Bar:** Good  
**Wrapper:** Inside foil wrapper, outside  
paper band printed in yellow, red and  
brown.  
**Size:** Good  
**Bar:**  
    **Color:** Too dark  
    **Texture:** Good  
    **Peanuts:** Good  
    **Taste:** See remarks.  
**Remarks:** Candy in bar had a slight

burnt taste as if some scrap was used.  
Good eating, but suggest the flavor of  
candy be checked.

**Code 6K1**  
**Cinnamon Dots**  
**8 ozs.-19¢**

(Sent in for analysis)

**Appearance:** Good  
**Container:** Cellulose bag printed in red  
and white.  
**Dots:**  
    **Red Color:** Good  
    **Panning:** Good  
    **Finish:** Good  
    **Flavor:** Good  
**Remarks:** The best piece of this kind

we have examined this year. Well  
made and a good cinnamon flavor.  
Cheaply priced at 19¢ for 8 ozs.

**Code 6M1**  
**Butter Mints**  
**7 ozs.-25¢**

(Sent in for analysis)

**Appearance of Package:** Good  
**Container:** Cellulose bag printed in red,  
green and white.  
**Mints:**  
    **Color:** Good  
    **Texture:** Good  
    **Flavor:** Good  
    **Size of Piece:** Good  
**Remarks:** The best mints of this type  
we have examined this year. Attractive  
printing on bag.

**Code 6N1**  
**Chocolate Chip Butter Mints**  
**7 ozs.-25¢**

(Sent in for analysis)

**Appearance of Package:** Good  
**Container:** Cellulose bag printed in red,  
green and white.  
**Mints:** These mints have a chocolate  
center.  
    **Color:** Good  
    **Texture:** Good  
    **Flavor:** Good  
    **Chocolate:** Good  
    **Size of Piece:** Good  
**Remarks:** The best piece of this kind we  
have examined this year. Attractive  
printing on bag.

**Code 6P1**  
**Cherry Butter Mints**  
**7 ozs.-25¢**

(Sent in for analysis)

**Appearance of Package:** Good  
**Container:** Cellulose bag in pink, green  
and white.  
**Mints:**  
    **Color:** Good  
    **Texture:** Good  
    **Flavor:** Poor. See remarks.  
    **Size of Piece:** Good  
**Remarks:** Suggest a better cherry flavor  
be used. The flavor used leaves a bad  
taste in the mouth. Attractive printing  
on the bag.

**Code 6Y1**  
**Milk Chocolate Covered Cherries**  
**10 ozs.-59¢**

(Purchased in a chain variety store,  
Chicago, Ill.)

**Appearance of Package:** Good  
**Container:** Oblong box, two layer style.  
White glazed paper top printed in red  
and green. Imprint of cherries in color.  
Cellulose wrapper.  
**Appearance of Box on Opening:** Good  
**Number of Pieces:** 17  
**Cherries:**  
    **Coating:** Good for this priced cherries  
    **Center:**  
        **Cordial:** Good  
        **Cherries:** Good  
        **Taste:** Good  
**Remarks:** One of the best cherries we

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**★ Contains no mineral oil**



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have examined this year. There were four broken pieces.

**Code 6Z1**  
**Dark & Light Covered Cherries**  
**in Cream**  
**1/2 lb.—65¢**

(Purchased in a fancy food shop,  
Chicago, Ill.)

**Appearance of Package:** Fair

**Container:** White folding box printed in brown and pink. Sold in bulk.

**Cherries:**

Coatings: Good

**Centers:**

Light Coated Cherries: Good

Dark Coated Cherries:

Cordial: Good

Cherries: Good

Taste: Good

**Remarks:** The best cordial cherries we examined this year, but highly priced at 65¢ the half pound.

**Code 6G1**  
**Coconut Kisses**  
**9 ozs.—29¢**

(Sent in for analysis)

**Appearance of Package:** Good

**Container:** Cellulose bag printed in blue and yellow.

**Kisses:**

Color: Good

Texture: Good

Coconut: Good

Taste: Good

**Remarks:** The best piece of this type we have examined this year.

**Code 6H1**  
**Coconut Bon Bons**  
**9 ozs.—29¢**

(Sent in for analysis)

**Appearance of Package:** Fair

**Container:** Cellulose bag, paper clip on top printed in yellow, red and white.

**Bons Bons:**

Colors: Good

Coating: Good

Centers: Good

Texture: Good

Taste: Good

**Remarks:** The best Bon Bons at this price we have examined this year.

**Code 6Q1**  
**Chocolate Malted Milk Eggs**  
**4 ozs.—27¢**

(Purchased in a chain drug store,  
Chicago, Ill.)

**Appearance of Package:** Good

**Container:** Oblong box, white printed in blue, pink and yellow.

**Eggs:** 12 pieces in the shape of an egg.

Piece is a large malted milk ball, chocolate panned, and an outside coat of sugar.

Colors: Good

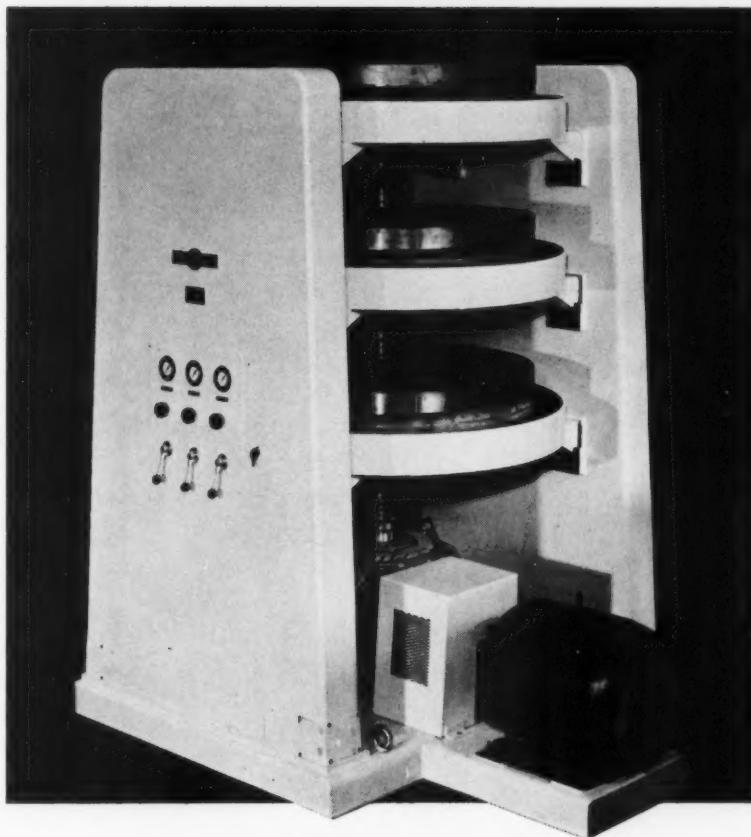
Panning: Good

Finish: Good

Texture: Good

Taste: Good

**Remarks:** A very fine eating piece, well made and cheaply priced at 27¢.



**A New LEHMANN**  
**TRIPLE LIQUOR MILL**  
**for**  
**finer grind, increased output**

**T**his new Triple Cocoa Liquor Mill has an improved cooling system that discharges the ground liquor 40° to 50° lower in temperature than other mills. This, of course, raises the viscosity, substantially increasing fineness of grind and accelerating output.

All adjustments for the new mill are automatic. Pressure gauges regulate settings for repetitive operation. Noise and vibration are greatly reduced. A highly streamlined profile, with elimination of all unnecessary recesses and projections makes cleaning an easy task. This is important today, in view of increasingly strict public health laws.



**Send for additional information.**

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The

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# the manufacturing retailer

## *Designing stores for profit*

### *The Technique, Materials and Mechanics of Candy Store Planning*

BY RAYMOND LANE  
Lane-Bender, Inc.

This, the third article in the MANUFACTURING CONFEC-TIONER's Retailer's series, is devoted to problems of increasing sales through better design. Mr. Lane provides here answers to a vital question: how to make the best use of retail outlets. The article brings you ideas and up-to-date information on physical planning and construction of well-designed stores.

*Our previous article dealt with the problem of increasing appeal of a well-designed candy store. It stressed the choice of location and discussed creating an aura of quality in the selling operation, infusing a positive spirit and creating appropriate moods and settings. Now we'll review some practical aspects of physical planning.*

**C**onstruction, traffic, materials, space lighting and color all are vital elements of an effective sales effort.

There is a widespread awareness of importance of these elements, as indicated by numerous inquiries from our readers, some of which we will answer here:

**Question:** *I've investigated all types of floors. Some stores have terrazzo floors, others prefer tile, still others have wooden floors. I am looking for a modern effect and easy maintenance, at low cost.*

**Answer:** Terrazzo is the most colorful and the most durable floor material, but it's also the most expensive to put down and maintain. Tile is cheaper to

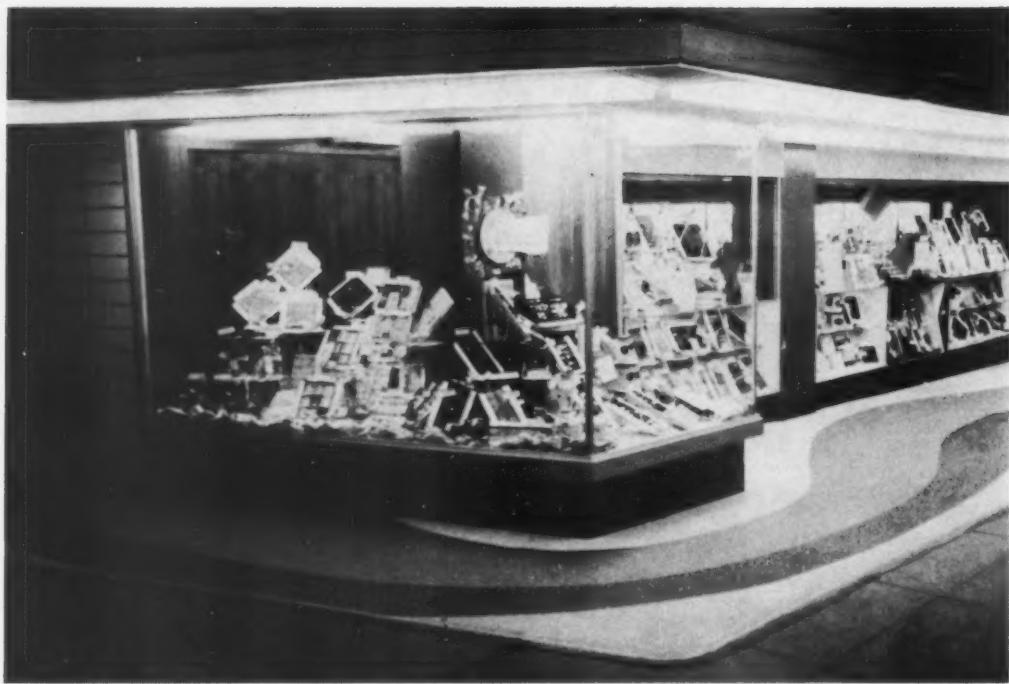
install, but calls for the same maintenance expense. Wood is cheaper, but harder to maintain. However, there is a new epoxy material which we used when we designed Loft's subway stores. This material has the beauty of terrazzo, and a similar effect, which is obtained at a much lower cost. Its special use is for situations where there is very heavy inside-outside traffic.

We would also suggest looking into the possible use of asphalt, rubber or vinyl.

**Question:** *My walls need painting at least every two years to keep the stores attractive. I always have the problem of the expense of painting and the odor in the store. The necessity for closing everything down also hurts my business. What can you suggest?*

**Answer:** Why not try vinyl wall covering, using attractive colors? You will have a durable wall covering with a minimum of upkeep. Vinyl offers a tremendous selection of textures (e.g. wood, brick, etc.) and colors. Although the original cost is higher, the upkeep will pay for itself in a very short time.

**Question:** *I have a very narrow store, and it is*



The use of new epoxy materials for floors is justified in conditions where, due to heavy indoor-outdoor foot traffic, much wear and tear is evident. Low maintenance is important.

long. Although I have taken the back section for stock and storage, the store still gives the feeling of an aisle and is out of proportion. My problem is to get the customers to go to the back of the aisle.

**Answer:** First of all, design the floor with the traffic lane in a different color. Bring light colors to the end of the store, which will give the effect of a shorter store, and provide darker colors or mirrors for the side walls; or else paint the rear wall and one side wall a light value and the remaining wall darker, so that it will be harder to realize the room's actual proportions.

**Question:** We have a problem of showcase lighting. Our candy is lit from above, with fluorescent lighting which is the coolest, but does not make the candy look as appetizing as the incandescent light. What do you suggest?

**Answer:** There are many new types of fluorescent

The earlier articles (How to Make Your Store an Eye-Stopper, and Quality Image for the Retailer) are available in reprint from Mr. Lane, in care of the MANUFACTURING CONFECTIONER, 418 North Austin Boulevard, Oak Park, Illinois.

Raymond Lane has had many years of experience in the package and store design field and is a member of the Package Designers Council. He is president of Lane-Bender, Inc. which has designed award-winning packages for several candy manufacturers. Lane-Bender are members of the Associated Retail Confectioners, and Mr. Lane frequently appears as principal speaker at ARC meetings.



lighting on the market which, if used properly can provide a desirable combination of cold and warm light, and make almost any chocolate appear delicious. However, most stores have your problem, and in one case, for Loft Company, we designed a special showcase, which contained a light fixture permitting the illumination of candy from the case level, without overheating. Generally, if you can't afford especially designed cases, the problem can be by-passed by the use of glass-top cabinets, with overhead lighting. But don't forget that if you use the top for display, this will reduce the amount of lighting inside the case. In such a situation concentrate the display in selected points so that the light still can filter through.

These questions and answers illustrate the need for a good planning approach and a proper evaluation of materials.

#### Physical planning and construction

The function of the store is to sell. It should be planned from the inside, starting at the point of sale, where merchant and customer meet. Interior sales space, service areas and equipment should be planned and organized first. This will provide the basis for the outside design of the store, including the entrance front.

#### Materials

Materials in store construction and equipment must be appropriate, durable, economical in cost and easy to install and maintain. There is a multitude of

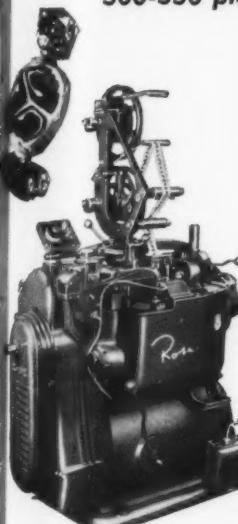
ROSE  
Form, Cu  
Output: 5

ROSE  
Form, Cu  
Wrapp  
Output: 6

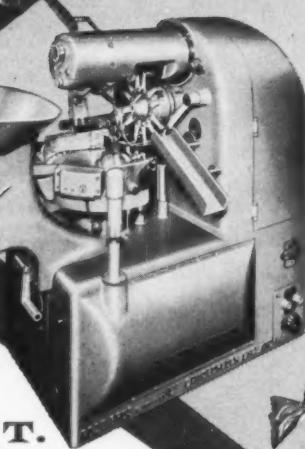
## ROSE F. W. T. TRIUMPH

Form, Cut, Fold or Twist Wrapping Machine

Output: 550-600 pieces per minute on twist  
500-550 pieces per minute on fold



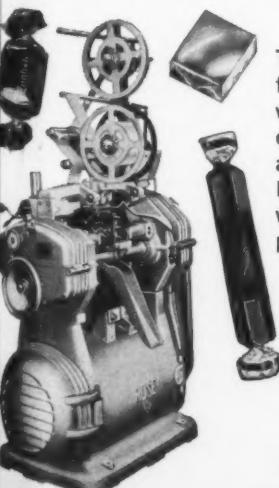
The Rose Triumph is designed for the high speed production of twist or fold wrapped pieces showing the cut side through the wrapper. This is a very desirable feature for the attractive display of whirls, fancy nougats, fruit or nut centered candies with a patterned center. Machine can be supplied to produce round, rectangular, oval, or almost any shape and weight of toffee or hard candy.



## ROSE F. W. T.

Form, Cut, Fold or Twist  
Wrapping Machine

Output: 650 pieces per minute



The Rose F. W. T. is designed for forming, cutting, folding or twist wrapping square, rectangular or cylindrical shaped toffees, caramels, and hard candies in cellophane or wax paper, with and without an understrip or, wax paper with an overstrip.

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depending on shape of piece

The Rose 5 I. S. T. is designed for the twist wrapping of irregular shaped candies. This machine will either twist both ends of the wrapper or "sachetti" single end twist wrap, as required.

- Equipped with a patented automatic feed.
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# Helpful Books for Candy Plant Executives

## Confectionery Analysis and Composition

by Stroud Jordan and Katheryn E. Langwill

This volume, first published in 1946, is still the only published reference work on the subject of confectionery analysis. It concerns itself with applicable data that covers composition of basic raw materials as well as that of the finished confections in which they have been employed.

116 pp. - \$6.00

## Confectionery Problems

(Confectionery Studies, Number 1)

by Stroud Jordan

Stroud Jordan's reputation as an important candy technologist is based on this his first book. Published in 1930 it is still, in many areas, the final word on technology in the industry. Jordan's sense of responsibility to record his discoveries and knowledge for the benefit of the industry caused him to produce more writings on the technical and scientific aspects of candymaking than any other person in the field. The recognition given him in the form of the establishment of the Stroud Jordan Medal by the American Association of Candy Technologists rests on this sense of responsibility.

347 pp. - \$6.00

## A Textbook on Candy Making

by Alfred E. Leighton

Here is a textbook where the reader can learn the basic fundamentals of candy making, the "how" and "why" of the various operations in non-technical terms. Particular attention is given to the function of raw materials, and why each is included in a formula.

175 pp. - \$6.00

## Choice Confections

by Walter Richmond

This book, now in its second printing, is written primarily for the manufacturing retailer. It contains 365 formulas given in two batch sizes, one for hand work and one for machine work. All of these formulas have been production tested and have proven to be of great help to manufacturing retailers in varying old items and developing new ones. The book also contains a glossary of candy terms and chemical terms, a complete chapter on chocolate coating methods and a chapter on ingredients and their uses. It is an important and useful book for all manufacturing retailers.

544 pp. - \$10.00

- Confectionery Analysis and Composition—\$6.00
- Confectionery Problems—\$6.00
- A Textbook on Candy Making—\$6.00
- Choice Confections—\$10.00
- Your Future Factory—\$2.00
- Profits Through Cost Control—\$2.00
- How to Salvage Scrap Candy—\$3.00

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## Your Future Factory

by V. P. Victor, M.E., P.E.

A twenty page booklet contains the essentials of modern factory planning. It includes plant layout, process design, materials handling, building and structure, production line and financial planning. This is a reprint of the five part article which appeared in The Manufacturing Confectioner in 1958. Mr. Victor is well qualified to advise on factory layout since he has had considerable experience in such planning together with experience in design of candy machinery and process development. He is a consulting engineer with headquarters in New York City. 20 pp. - \$2.00

## Profits Through Cost Control

by Frank Buese and Eric Weissenburger

This material deals with the problems of cost control in candy plants including planning for profit. The emphasis is on planning operations so that a profit will be made, and in early detection of those factors which will adversely affect profit.

36 pp. - \$2.00

## How to Salvage Scrap Candy

by Wesley H. Childs

This booklet is a complete revision of the author's work "Modern Methods of Candy Scrap Recovery" published in 1943. A considerable amount of information has been collected since that time on methods and techniques of salvaging scrap candy. This booklet covers all types of candy, and gives many practical and economical ways of converting scrap candy into a useful form for re-use. 28 pp. - \$2.00

materials  
important  
Use the  
your plan

Stone  
exteriors.  
sistant  
servative  
structural

Marble  
hard to k

Granite  
texture,  
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materials available today. Plastics are becoming so important that they will require a separate article.

Use this summary of materials as a check-list for your planning:

**Stone** is used as a finish veneer for interiors or exteriors. It is permanent, durable and weather resistant when close-grained. For surfaces, its rich, conservative appearance is contemporary, but not for structural use.

**Marble** is comparatively expensive; some kinds are hard to keep clean.

**Granite** when polished equals marble in color and texture, and is the most durable stone, with high initial cost but no upkeep.

**Fieldstone** is popular for a rustic texture, the local stone of the area determining the pattern and color.

**Slate or flagstone** is durable, colorful and attractive when used for floors, combined with masonry walls. It requires little upkeep, but is fairly expensive to install.

**Baked clay products** are weatherproof and durable, in a wide range of colors and textures. Tile and terra cotta are colorful surfacing materials, low in initial and maintenance costs. Brick can be used in natural finish, glazed, whitewashed, painted, in various colors, shapes, sizes and is waterproof and washable. It can be used for loadbearing walls or as a finish wall veneer, as well as for flooring, indoors or outdoors.

**Plaster or stucco** is economical and, although it can be painted, it is inflexible. Stucco is messy to install and cracks, becomes worn, looks shabby and gets dirty.

**Concrete** is excellent for structural use. As a finish material it is hard to maintain.

**Terrazzo**, a colorful mixture of marble chips and cement, is excellent and handsome for flooring and can be laid at the job. Precast and polished terrazzo panels may be used for walls and columns.

**Wood** is one of the most important products for stores, both structurally and as a finish for walls, ceilings, floors and equipment. It is completely flexible for assembly and reassembly because of its prime feature—it is dry-built. Wood is clean to work with, durable, decorative, economical, with thousands of variations.

**Plywood** comes in flat sheets, curved and molded shapes, or bonded to other materials. It has structural strength and durability, can be waxed, stained, painted and waterproofed for use indoors and out. Wallboards are used for the interior to finish walls and ceilings. They have acoustical qualities, are inexpensive, easy to install and flexible.

Among the applied finishes are wallpaper, photomurals, grass cloth, burlap, etc. Maintenance is a problem, but a plastic coating can be used for protection.

**Steel** is structurally perfect, although seldom visible. Stainless steel is high in initial cost but durable,

easy to maintain and handsome. It can be used for interior finish sales fixtures, sign lettering and front glazing.

**Aluminum** is reasonable in initial cost, easy to maintain and used for doors, trims, hardware, walls, ceilings, finish, equipment, etc.



Here is a spectacular use of kraft paper as a wall covering. Silk screen printing in seven colors produced an impression of mosaic panel. Special inks give an effect of raised lines. The panel is 12' x 4'.

**Porcelain enamel** is a popular wall finish and for sales fixtures, low cost, easy to maintain and in a wide range of colors. On aluminum it can be sawn or cut. The exposed edges will not rust.

**Asbestos** is fireproof, durable and low cost. Woven into cloth, it is a fabric. In sheets and in corrugated form it can be used for interior and exterior surfacing.

**Plastics** come in great many varieties suitable for indoor or outdoor use. It's a rapidly expanding field which requires a thorough examination.

**Glass** has a thousand uses. There are structural and plate glass, corrugated and translucent glass. Glass block or double glazing will give good insulation. The use of glass for show windows, sales fixtures, partitions, etc., is endless. Woven into cloth, it is fireproof drapery.

**Fabric** has a variety of color, texture, pattern and material and may be used for awnings, carpets, drapes, upholstery. Plastics come in many different forms for widely diverse uses. Some are useful as protective coatings which are very durable when properly used. Most plastics are stainproof, waterproof and some even flameproof. The colors are infinite.

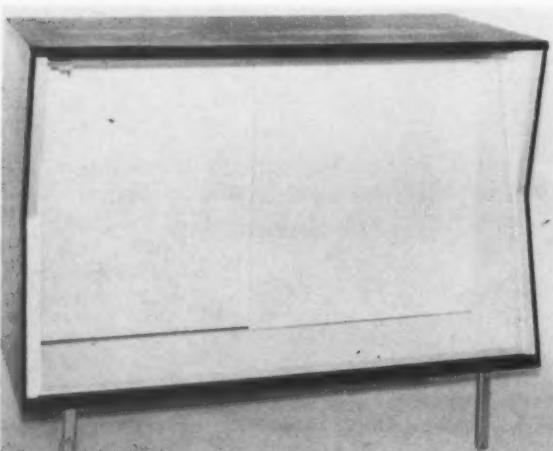
**Paints, enamels and stains** are essential store items.

Some of the exterior materials are becoming somewhat outdated due to the current migration to shopping centers where the exteriors usually conform to the total appearance of the center. Also, the increasing popularity of pre-fabricated store buildings influences the choice of materials.

#### Planning for store traffic

Well-organized sales space is divided into three parts:

1. Impulse items are located near the entrance.



A new type of candy case, of Lane-Bender design, provides good illumination for chocolates. The lighting fixture is under the Formica top. A glass panel, placed at an angle between light source and the product, provides protective barrier against heat.

2. Convenience items fill the bulk of the store and are located in the center.

3. Demand items may be located in the rear.

There should be well-defined sales departments related to customer traffic routes. Bargain tables should not be located near points of leisure buying. Departments should be interrelated to promote sales. Curved aisles and lines permit free flow of traffic. The curved counters provide extra standing space away from main floor traffic and permit sales personnel free movement behind the counters.

The character of the store is set after traffic has been established.

#### Planning sales space

Each sales department has three functions:

1. Where customer and clerk meet.
2. A means of storing, displaying and selling merchandise.

3. A background for selling.

Customer aisles and sales space should be designed for the human figure. Minimum aisle (sales fixtures on one side only) can be four feet in width. Traffic aisles between groups of sales fixtures must be a minimum of six feet, space enough for one customer at each counter and a third to walk by. Even free standing fixtures must have ample space for traffic. Clerks' aisles are never less than 1 foot 10 inches wide and should be 2 feet 6 inches wide so that one clerk may pass another.

#### Design for storage

The two basic forms of sales departments are **island** and **wall** departments. The island departments are self-supporting units and should have sufficient storage equipment to eliminate stock renewal during sales hours. Wall departments are those placed against a partition or outside wall. There are definite advantages to this type. The wall provides display background while concealing reserves and equipment.

Even after a store is completed, a confectioner retailer may require changes because of merchandise, season or growth changes, or because of display obsolescence. There is no better way to stimulate impulse buying than a revamping to avoid monotony. If flexibility in sales fixtures, floor space, lighting and mechanical equipment is initially considered, changes can be made easily.

On self-service counters, stock should be easily accessible to stimulate "impulse" buying. The increased sales more than offset the losses from theft, damage or breakage.

#### Stock reserves

In addition to the merchandise stored in floor sales fixtures, it is possible to create a service island for a hidden stock room. The outer walls of such an island can form a display background to adjacent departments. A stock room is the best space saver. Far more merchandise can be stored per linear foot at far less cost for storage equipment than any sales floor fixture.

The next article in the series will be: How Store-Front, Color, and Light Can Help Sell Your Candy.

# **GREER IDEAS**

## **produce a better way...**



### **...for CREAM EXTRUDING**

This new Racine Cream Extruder is the only machine ever designed specifically for placing hand-rolled creams continuously on a coating line. It produces a hand-rolled center on a continuous basis without harming the delicate crystal structure.

The head moves continuously with the belt. The table rises and falls, giving a rolled effect to the cream shape. A spinning

wire does the cutting and revolves at 1200 r.p.m.

The result: high production of an excellent quality cream. This is another instance of Greer's constant search for methods of making better candy for more people at lower cost.

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**...TO BRING BETTER FOOD TO MORE PEOPLE AT LOWER COST**

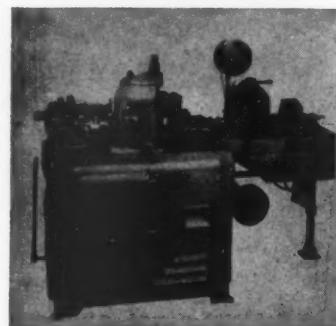
**Latini Die Pop Machine  
with Wrapping Attachment**

**There's profit in pops  
when you use the Latini**

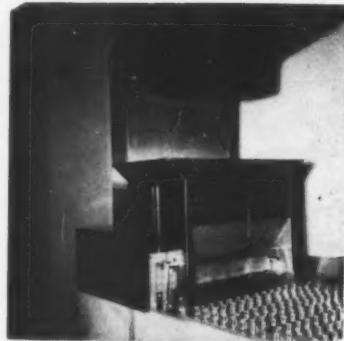
**Conservatively, 100 boxes per hour\***  
**of 120 count**

**A second Latini unit can be operated  
by the same person**

\*based on a 30-minute hour

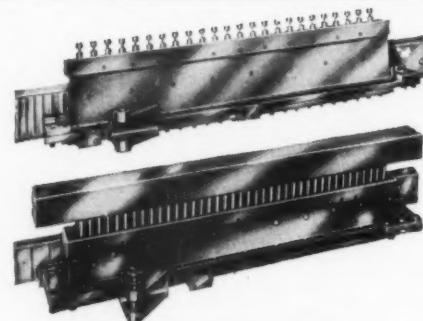


**225 Pops formed and wrapped per minute  
No handling between forming and wrapping.  
Eliminates breakage and labor.**



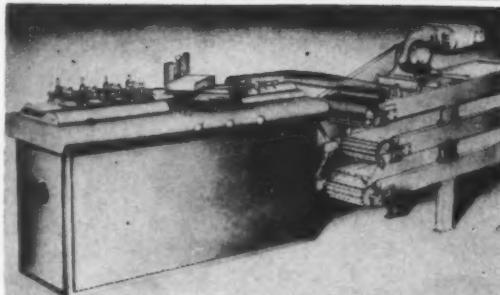
**THE HOFFMAN CLUSTER MACHINE**

- Handles all-free flowing nuts.
- 2 more clusters per row.
- All stainless-steel construction.
- Available in 16-24-32 and 40 inch widths.



**Mill River Pump Bars**

Faster, better, and more accurate due to precision workmanship. Water-sealed—Sanitary—No Grooves—No Washers. Available in all sizes. Single, double, triple and quadruple row for all depositors. Also available—Special Chocolate Pump Bars—Sanitary Stainless Steel Hoppers.



**M.F.P. STICK-MASTER**

(Patent Pending)

Integrated Sizer & Twister with electronic speed control. Flexible—Diameters for  $\frac{1}{4}$ " to  $1\frac{1}{2}$ "; length from 4" to 16". Productive—up to 1500 inches per minute. Sanitary—Stainless steel finish—Candy always in sight.

**BERKS HARD CANDY MIXER**



Mixes color, flavor and acid in 75 to 125 pound batches at rate of 1000 lbs./hr., 10% scrap may be included. Saves labor and floor space. Assures uniform mixing and constant rate of production through the day.

**Representative:**

*John Sheffman, Inc.*

**152 W. 42nd STREET**

**NEW YORK 36, N. Y.**

## Newsmakers

Wright Machinery Company, Division of Sperry Rand Corporation, and **Hamac-Hansella** A. G. Maschinenfabrik, have jointly announced an agreement to represent each other in sales, service and spare parts in certain world territories. Wright will handle the U.S. market for Hamac-Hansella single column Transwraps and Hamac will be responsible for Wright weighing machinery in West Germany, The Netherlands and Luxembourg.

William A. Medlicott has become associated with Donald Demmy, Philadelphia broker for **Penick & Ford** corn syrups and starches. Medlicott also represents the Walter Baker Chocolate Division, and W. C. Smith & Sons in the Philadelphia area.

**Dodge & Olcott, Inc.**, presented its annual \$1,000 scholarship award to Theodore P. Labuza of the Massachusetts Institute of Technology. This award is given to outstanding students taking undergraduate work toward a degree in food engineering, technology or science.

Harold A. Bendixen has been elected president of **Clinton Corn Processing Company**, succeeding Roscoe C. Wagner. He joined Clinton in 1926, and was named vice president and general sales manager in 1950.

The **A. E. Staley Manufacturing Company** opened its new 100,000 square foot research center last month. It is dedicated to the development of new and more useful products from corn and soybeans, for nearly all types of industrial applications.

Henry Barksdale has been named assistant sales manager of **Warner-Jenkinson Manufacturing Company**. He joined the firm in 1955 as a sales representative.

Peter Wood has been named a vice president and director of the flavor division of **Fritzsche Brothers, Inc.** He has been with E. J. Brach & Sons, The Walter Baker Division, and since 1954 with Sunkist Growers.

H. J. Nelson has been named sales manager of the **Merckens Chocolate Division** of Consolidated Foods Corporation. Nelson fills a position that has been vacant for some time.

Wayne Kile has been named candy technician on the food field staff of the **A. E. Staley Mfg. Co.** Kile was formerly with the Kroeger Company in Cincinnati, where he was supervisor of product development for the candy department.

**Blommer**  
CHOCOLATE  
COCOA  
THE BLOMMER CHOCOLATE CO.  
FACTORIES: LOS ANGELES  
CHICAGO, SAN FRANCISCO

## Unique Flavor of **MOLASSES** Reflects Bigger Sales

Only quality molasses gives full flavor to Hard Candies, Honeycomb Chips, Chewing Nougat, Kisses, Fudge and Creams . . . and since **MOLASSES** has been our business for nearly a century, we can assure you of the finest in quality.

Our laboratories are constantly developing new ideas and formulas to help increase your sales. Take advantage of our Technical Service.

If you don't have our booklet—"BASIC CANDY FORMULAS"—we'll be glad to send you a copy, **FREE**.

For prompt, direct delivery, order your molasses requirements from our office nearest you.

Stocks carried at  
strategic points in  
the U.S. and Canada.

Packed in 5-, 15-,  
30-, and 55-  
gallon drums.



### AMERICAN MOLASSES COMPANY

Packers of all grades of Molasses and Syrups  
120 WALL STREET, NEW YORK 5, N. Y.

PLANTS AT: Brooklyn, N.Y. • Boston, Mass. • Chicago, Ill.  
Los Angeles, Calif. • New Orleans, La. • Wilmington, N.C.  
Montreal, Canada

(Continued from page 7)

Co.; Irv Shaffer, Just Born, Inc.; Leonard Wurzel, Loft's; Frank Burke, Fanny Farmer; Herb Haug, Mason's Candies; Phil Shorin, Topps Chewing Gum; and Gene Teal, Hooten Chocolate Co.

A discussion of the cocoa crop, and the political, economic and social aspects of the cocoa situation was a highlight of the meeting. Panelists included Julian Hemphill, cocoa bean buyer, Hershey Chocolate Corp., New York; Daniel E. Hegarty, sales manager, Walter Baker Chocolate division, General Foods Corp., Dorchester, Mass., and Bernhard S. Blumenthal, president of Blumenthal Bros. Chocolate Co., Philadelphia.

## Stevens candy elects three directors

K. F. MacLellan, H. E. Woodford and Donald R. Keith are newly elected directors of Stevens Candy Kitchens, Inc., Chicago. MacLellan, chairman of Union Asbestos Co., and former chairman-president of United Biscuit Co. of America, is a director of Stevens and Martha Washington Candy Kitchens, Inc. Woodford, who has been named to the Martha Washington Board, is a marketing consultant and former president of Monarch Foods division of Consolidated Foods Corp.; and Keith is on the board of Mrs. Stevens Candies, Inc., Stevens' newly acquired Far West division.

## Peter Paul closes unit

Peter Paul, Inc., Naugatuck, Conn., has closed the factory in Philadelphia, and machinery and equipment has been moved to other plants of the firm. Closing the Philadelphia unit is a continuing part of Peter Paul's modernization program, Assistant Sales Manager Ed Dalton reports.

## Confectionery companies use TV

Candy and confectionery companies are turning ever more heavily to television as their number one advertising medium to reach young households where most candy is consumed, the Television Bureau of Advertising reports.

In 1960, eight of ten national advertising dollars (79.6%) spent by all confectionery companies in the major measured media went into television compared with 67.1% of the total in 1959.

At the same time that confectionery companies increased their use of television, sales of candy and chewing gum soared to more than \$2.5-billion. Per capita consumption of candy alone in 1960 moved to 17 pounds or a total of more than three billion pounds with a wholesale value of \$1.2-billion.

The per capita consumption was the highest since 1953 and continued the upward trend begun in 1956 when confectionery companies began to put their main advertising emphasis on television. The produc-

tion of three billion pounds represents a new all-time high.

Total television gross time billings in 1960 for candy and chewing gum were \$29,265,803, an increase of 34% over 1959's \$21,920,800. Spot television billings in 1960 were \$16,557,500, while network gross time billings were \$12,708,303.

Candy and chewing gum advertisers in 1960 spent \$36.8-million in television, newspapers, magazines and outdoor, compared with \$32.7-million in 1959, an increase of 13%. The figures do not include program or production costs.

A total of twelve advertisers who spent more than \$500,000 each in the four media in 1960 accounted for \$32.7-million of the \$36.8-million total for all companies for gross time or space.

In 1960, these twelve national advertisers spent 82.2% of their billings in television, compared with 68.6% in 1959. Magazines represented 6.9% in 1960, against 10.5% in 1959. Newspapers accounted for 4.4% of the total in 1960 against 11.8% in 1959 while outdoor in 1960 was 6.5% against 9.1% in 1959.

Leading the list was Wm. Wrigley, Jr., Co. with gross billings of \$10,741,472 in 1960 compared with \$7,294,626 in 1959. Wrigley spent 78.4% of its budget in television last year against 37.7% in 1959.

## NECCO re-elects officers

All officers of New England Confectionery Company, Cambridge, Mass., have been re-elected for the ensuing year. They are: Robert G. Emerson, chairman of the board; John M. Whittaker, president; Howard N. Smith, executive vice president; William H. Vogler, senior vice president and treasurer. Arthur L. Peck, George B. Keogh, and Richard D. Muzzy are vice presidents, and Ernest O. Palumbo is assistant treasurer and clerk.

## Harms gets Hollywood post

Clinton L. Harms, general auditor of Hollywood Brands, Inc., Centralia, Ill., has been elected corporation secretary, President F. A. Martoccio announces.

Harms is the brother of Raymond Harms, vice president and manager of Hollywood Nut Products, Montgomery, Ala., a division of Hollywood Brands, Inc.

## Promotions at Brach

R. C. Wells has been named general line sales manager of E. J. Brach & Sons, Chicago candymaker. This is a newly-created position. Wells is succeeded as western sales manager by J. J. Collins, and F. L. Elmore takes over as South Central division sales manager, succeeding Collins.

2 CM 2000 Moguls  
replace 4  
starch moulding units  
at Moirs Limited



128 ARGYLE ST.  
HALIFAX, CANADA

Mr. Herman Greenberg, President,  
National Equipment Corporation,  
153-157 Crosby Street,  
New York 12, N. Y.

Dear Mr. Greenberg:

Our answer to recent enquiries about our experience with our new CM 2000 Mogul and its year old companion has been that these two Moguls are producing substantially more centers than the four which they replaced, the four consisting of two AD Woods and two from abroad, all four being postwar machines.

The performance of the CM 2000 Moguls has fully confirmed your promise of accurate uniform weights, practically no tailings, excellent cleaning of centers and reliable operation.

In a few words, the results have proved that we made the right decision in re-ordering National Equipment Corporation Moguls and we are enthusiastic about their operation.

With kind regards,

Yours very truly,

J. D. Fraser,  
Assistant General Manager,  
Moirs Limited.

December 28, 1960



ALL NEW  
HEAVY DUTY  
MODEL CM 2000 MOGUL

If you need a new or additional Mogul, you're already paying for it in lost profits. Therefore you cannot afford not to invest in the latest and most efficient Mogul.

National Equipment will assist you to get the Model CM 2000 Mogul NOW, when you need it most! You can pay for this new Mogul over a period of time during which the savings you earn will cover your payments.

Visit Our Booth Nos.  
31-32-33-34-35  
N.C.A. CONFECTIONERY EXPOSITION  
JUNE 11th-15th  
Conrad Hilton Hotel, Chicago

You require savings like  
this...at a time when  
all costs are rising!

HERE'S PROOF OF PERFORMANCE!

J. D. Fraser,  
Assistant General Manager,  
Moirs Limited

says . . .

"The performance of the CM 2000 Moguls has fully confirmed your promise of accurate uniform weights, practically no tailings, excellent cleaning of centers and reliable operation."

ONLY THE FITTEST HAS SURVIVED!

National Equipment has been the only builder of starch moulding machines who has been able to stand the test of time and has earned world-wide customer satisfaction and recognition. We have established our leadership by going ahead with imaginative engineering and painstaking craftsmanship to design and build the best possible Mogul for the candy manufacturer.

These exclusive features add up to the CM 2000 Mogul's superiority

- \* Increases in production of up to 50%.
- \* Perfectly clean centers.
- \* Pinpoint detail in moulding.
- \* No breakdown of starch moulds at high operating speeds.
- \* Micro-accurate weights of centers.
- \* Precision control—no scrap, no waste.
- \* Rugged construction to prolong machine life and cut maintenance costs.

NATIONAL  
EQUIPMENT CORPORATION

153-157 Crosby Street  
New York 12, N. Y.  
212-CAnal 6-5333

163-167 North May St.  
Chicago 7, Illinois  
312-SEely 3-7845





# For Old Time Favorites

## modern resinous glazes

Wm. Zinsser & Co., has been making confectionery glazes ever since such old-time favorites as jelly beans, butter creams and candy corn were new-fangled delights. And through the years Zinsser has developed new and improved resinous glazes that give these favorites maximum protection and sales appeal. Here is the broad line of Zinsser glazes to meet your requirements.

**Regular glaze** — full-bodied, opaque, creamy solution. Gives a clear film.

**Refined glaze** — wax-free, transparent, amber-colored solution. Gives a crystal clear film, more brilliant than Regular.

**Orange glaze** — color of conventional liquid orange shellac. Gives an unusual "ton-

ing" effect on dark chocolate pan goods. Available in 3-lb., 4-lb., and 5-lb. cuts with 28.8%, 34.9% and 39.9% dry solids respectively, or your special formulae.

**Zinsser quality controlled glazes assure** — smoothness of film . . . freedom from residual odor . . . consistent viscosity for uniform holdout . . . excellent color retention . . . purity . . . uniform wax dispersion.

Why not let our skill and experience, and modern research facilities work for you? For samples and information write—

**Wm. Zinsser & Co.**

offices and factories at 516 West 59th St., New York 19, N.Y.  
319 North Western Ave., Chicago 12, Ill.

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# PATENTS

2,954,293

## PREPARATION OF CHOCOLATE FLAVORING

Irving I. Rusoff, Park Ridge, N.J., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 28, 1958, Ser. No. 718,153  
18 Claims. (Cl. 99-26)

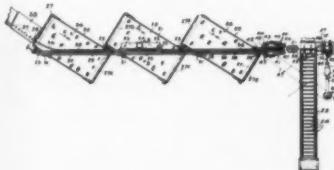
1. A process for preparing a chocolate flavoring material which comprises contacting fermented, unroasted cacao material containing precursors of chocolate flavor and aroma with a mixture of at least one water miscible organic solvent present in non-toxic amounts and water, whereby said precursors are extracted from said unroasted cacao material and pass into the extraction liquid to form an extract, separating from the cacao material the said extract containing soluble precursors of chocolate flavor and aroma, evaporating the extract to form a semi-solid mass, and roasting said mass to develop the chocolate flavor and aroma.

2,931,321

## PROCESS FOR FORMING CANDY INTO TWISTED STICK LENGTH UNITS

Napoleon S. Bestoso, Puyallup, Wash. Original application April 3, 1951, Serial No. 219,024, now Patent No. 2,767,665, dated October 23, 1956. Divided and this application February 1, 1956, Serial No. 562,914

19 Claims. (Cl. 107-54)



17. In the process of automatically and mechanically forming stick candy comprising mechanically forming a candy rope in warm plastic condition without manual manipulation; forming along said rope longitudinally spaced pairs of diametrically opposed transverse radial indentations, so as to produce stick lengths connected by links of reduced dimension; and then subjecting said rope of candy throughout its available length to a mechanically developed power force applied longitudinally of the rope and simultaneously providing a conveying movement to the rope and subjecting it to a tension force tending to offset the inherent tendency of the candy rope to contract upon cooling, said force being continued until said rope is substantially cooled.

2,978,335

## WHIPPING AGENT AND METHOD OF PREPARING THE SAME

David P. Kidger, Glen Rock, N.J., and Robert J. Baeuerlen, Park Forest, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois  
No Drawing. Filed Jan. 7, 1959, Ser. No. 785,339  
11 Claims. (Cl. 99-113)

1. A new composition of matter comprising a proteinaceous material having embodied therein a water-soluble polyester prepared by the esterification of an aliphatic glycol having 3-4 carbon atoms with a polycarboxylic hydroxy aliphatic acid having 4-6 carbon atoms, the

amount of said water-soluble polyester being sufficient to impart improved foaming properties to the proteinaceous material.

2,981,628

## ANTIOXIDANT COMPOSITION

Lloyd A. Hall, Chicago, Ill., assignor to The Griffith Laboratories, Inc., Chicago, Ill., a corporation of Illinois  
No Drawing. Filed March 18, 1954, Ser. No. 417,224  
1 Claim. (Cl. 99-163)

An antioxidant composition comprising a solution in an edible oil of di-tertiary-butyl-para-cresol together with lecithin citrate.

**Distributors:**

O. J. WEEKS Co., Inc.,  
44 North Moore Street, New York 13, N.Y.

RICH-MOOR CORP.,  
618 North Robertson Blvd., Los Angeles, California

**Manufacturers:** LENDERINK & Co. N.V., 20 Westerkade, Schiedam, Holland

2,955,548

METHOD FOR MANUFACTURE OF  
LIQUID FILLED HOLLOW  
CHOCOLATE BODIES

Walter Himmeler, Koln, Germany, assignor to Gebr. Stollwerck A.G., Koln, Germany

Filed Sept. 16, 1957, Ser. No. 684,341  
Claims priority, application Germany Sept. 15, 1956  
1 Claim. (Cl. 107-54)

The method of producing a liquid-filled hollow chocolate body consisting of forming the hollow body in halves and simultaneously forming a depression in the wall of one of the halves, joining the halves to form the hollow body, tapping a hole through the wall of the body at the bottom of the depression, introducing liquid through the hole into the hollow body and closing the hole and filling the depression with a chocolate body to restore the outer surface of the body to normal contour in the absence of projections.

2,949,367

METHOD AND MIX FOR CANDY  
COATING APPLES

Lawrence S. Goldmeier, 6312 Anderson St., Philadelphia, Pa.  
No Drawing. Filed Oct. 17, 1957,  
Ser. No. 690,602  
2 Claims. (Cl. 99-134)

1. A method for candy coating apples which comprises placing in a cooking vessel a homogeneous dry mix consisting essentially of granulated sugar, corn syrup solids, a hardening agent and imitation flavor, the ratio of sugar to syrup solids being about 5 to 1 by weight, the ratio of hardening agent to the combined sugar and syrup solids being about 1 to 96 by weight and the amount of flavoring being sufficient to impart the desired flavor to the mix, adding water in the ratio of about 1 to 6 by weight to the mix in the cooking vessel, heating the thus wetted mix to a temperature of about 300° F., and while the mix thus produced is at said temperature, dipping an apple thereinto and thereafter removing the dipped apple to cool and harden the coating.

2,975,061

COCOA-BUTTER SUBSTITUTES AND  
COMPOSITIONS CONTAINING SAME

Cornelis Johannes Soeters, Rotterdam, Netherlands, Hermann Pardun, Kleve, Germany, and Antony Crossley, Wallasey, and Stanley Paul, Preston, Birkenshaw, England, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine  
No Drawing. Filed Oct. 29, 1956,  
Ser. No. 618,681

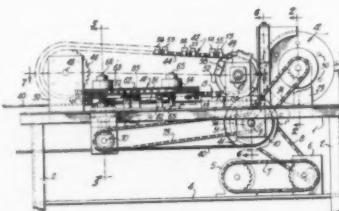
Claims priority, application Great Britain Oct. 31, 1955. 9 Claims (Cl. 99-118)

3. A fat composition consisting essentially of a lard fraction having an iodine value within the range of 25 to 40, a softening point in the range of 35° to 45° C., and a dilatation at 20° C. of not less than 1200, and only one fat selected from the group consisting of cocoa-butter and a palm oil fraction having an iodine value not greater than 42, a softening point within the range of from about 30 to about 45° C., and a dilatation at 20° C. of not less than 1000, said cocoa-butter, when present in the composition, being at a level of from 70 to 95% by weight thereof, and said palm oil fraction, when present in the composition, being present at a level of about 25 to 60% by weight thereof.

2,956,520

CANDY CANE FORMING MACHINE

Gregory H. Keller, 211 W. 19th, North Little Rock, Ark., assignor of one-half to Robert E. McCormack, Albany, Ga.  
Filed May 13, 1957, Ser. No. 658,679  
17 Claims. (Cl. 107-8)



5. A machine for bending into a crook one end of semi-plastic sticks of candy

to form candy canes comprising, a frame, a source of supply of straight, semi-plastic candy sticks adjacent one end of said frame, means mounted on said frame to receive candy sticks singly and in continuous succession from said source of supply and transport them through the machine, said transporting means having grippers to engage the sticks along portions of their lengths leaving end sections projecting beyond the grippers with the sticks positioned transversely to the direction of travel, means mounted on said frame adjacent to said transporting means and movable simultaneously with and in the direction of movement of said transporting means to engage the projecting ends of the sticks and bend them to crook-shape while the sticks are being transported through the machine, and a cam fixed to said frame in the path of travel of the projecting ends of the candy sticks to contact and bend the projecting ends of the sticks at right angles to the portion held in the grippers prior to contact of said movable bending means with said sticks.

2,933,397

EGG WHITE COMPOSITION

Vincent F. Maturi, Summerville, N.J., Lawrence Kogan, Stamford, Conn., and Nicholas G. Marotta, Milltown, N.J., assignors to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware  
No Drawing. Application November 3, 1959, Serial No. 850,538  
20 Claims. (Cl. 99-113)

1. A process of preparing an egg white composition having improved whipping properties, which comprises incorporating in egg whites an ester of a polyhydrolic alcohol having less than four carbon atoms and an acid of the group consisting of aliphatic monobasic acids having two carbon atoms and aliphatic monobasic acids having three carbon atoms, in an amount within the range from a fraction of 1% to about 2% based on the weight of liquid egg white effective to substantially decrease the whipping time of the egg white.

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## MAKE CHEWY CANDIES SELL MORE

and the way to make them sell more is to make them better with Corn Products hydrogenated coconut oil or hard butter. They'll give unparalleled chewing and eating qualities to caramels, toffees, taffy, nougats and other confections. They're proven favorites of leading candy makers: LBLISK (hydrogenated coconut oil; 92°, 97°, 110°); S-70-XX Hard Butter (pure white, neutral taste, cannot separate, uniform, sharper melting point than ordinary hard butters). Both are available in various melting points. Fast, dependable delivery and technical assistance if you wish.



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# Every type of... Most Modern High Speed Wrapping Equipment

- \* for cut and twist wrap
- \* for cut and fold wrap
- \* for individual twist
- \* for individual bunch

**Available For  
Immediate Delivery**

**At Great Savings**



5 — Forgrove 22B Twist Wrappers (purchased 1956). Can be purchased with or without Mark III Automatic Feeders.

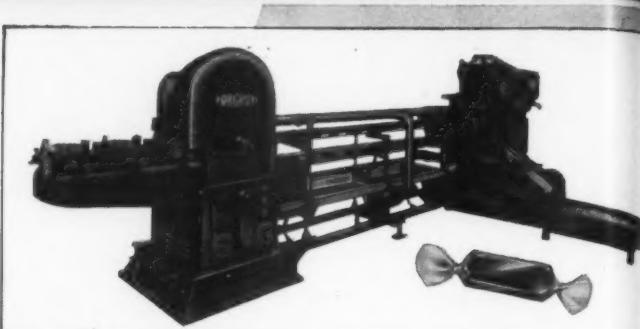
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for details  
and prices**

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CONFECTIONERY MACHINERY CO., INC.

318-322 Lafayette St.  
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163-167 North May St.  
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Rebuilt  
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Established 1912



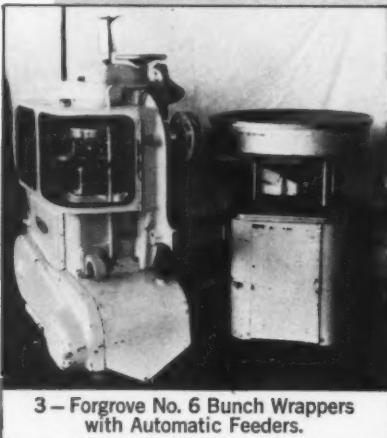
2 — Forgrove Plaswrap Hard Candy Sizing, Forming, Cooling and Twist Wrapping Machines (New 1956). These machines form and wrap in one continuous operation a hard candy piece at 500 pieces per minute. Desirable size of this piece is 1-5/16" x 7/16" x 3/8".



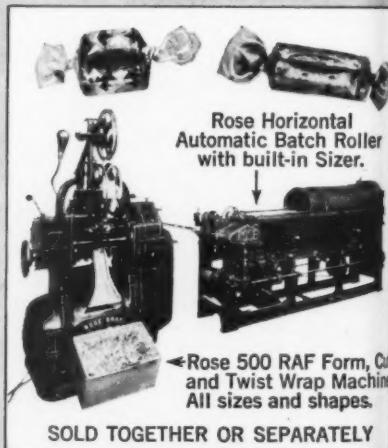
Rose I.S.T. Twist Wrapper for various preformed shapes.



3 — Forgrove 42C high speed toffee Cutting and Twist Wrapping Machines. Speed of 600 pieces per minute.



3 — Forgrove No. 6 Bunch Wrappers with Automatic Feeders.



Rose Horizontal Automatic Batch Roller with built-in Sizer.

← Rose 500 RAF Form, Cut and Twist Wrap Machine All sizes and shapes.

**SOLD TOGETHER OR SEPARATELY**



Forgrove Model 26D high speed Universal Fold Wrapper. For foil, cellophane and wax wrapping. Speed of 100 to 120 pieces per minute.

Bonus C  
Model E  
20 gal.  
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200 lb.  
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1000 lb.  
150 lb. t  
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# THE MANUFACTURING CONFECTIONER'S CLEARING HOUSE

## MACHINERY FOR SALE

### FOR SALE

Bonus Cluster Machine. Model K #3 Savage Fire Mixers. 20 gal. & 50 gal. Model F-6 Savage Tilting Mixers, copper kettle. 200 lb. Savage Oval Top Marshmallow Beaters. Cut-Rol Cream Center Machines. Bostonian Friend Hand Roll Machine. 1000 lb. Werner Syrup Cooler. 150 lb. to 500 lb. Chocolate Melters. 24" and 32" N.E. Enrobers. 32" Kihlgren Stringer. Simplex Gas Vacuum Cooker. Simplex Steam Vacuum Cooker. Savage Cream Vacuum Cooler 600 lb. Continuous Vacuum Cooker Form 3 Hildreth Pullers. Form 6 Hildreth Puller. National Cherry Dropper. 6' and 7' York Batch Rollers. National Wood Starch Buck. Bausman Twin Disc Refiner Unit. Ball and Dayton Cream Beaters. 30 Gal. Stainless draw off steam jacketed kettles. 100 lb. cap. Resco chocolate melting and tempering kettle. Savage Caramel Cutters.

**SAVAGE BROS. CO.**  
2638 Gladys Ave. Chicago 12, Ill.

Vacuum cooker, cream beaters, chocolate melters, stoves, cutrolls, pullers, batchrollers, kettles, cooling slabs, Hobart beaters, cutting machines etc., S. Z. Candy Machinery Co., 1140 North American St., Philadelphia, Pa.

One 100 lb. gas Simplex vacuum cooker with two kettles, new pump-\$600. One Racine sucker machine with three sets of rollers-\$150. Box 5611, The MANUFACTURING CONFECTIONER.

40' x 4' chocolate cooling tunnel with variable speed drive and refrigeration unit. Photographs and additional information available on request. Katherine Beecher Candies, Manchester, Pa.

One CM-3 brand new Package Machinery cellophane overwrapping machine with tear tape attachment. Good price for fast sale. Box 4611, The MANUFACTURING CONFECTIONER.

Berks mixer, Peerless plastic machine with 3 dies, 5' Racine fondant table beater. Box 6613, The MANUFACTURING CONFECTIONER.

### FOR SALE

Corn mogul-3 depositors and pump bars, Stacker Huhn drier and color with cleaner Hohberger cream machine 32" economy belturns 1000 lb/hour continuous cooker 6 x 8 drop frame with cooling conveyor cinnamon, lemon and peach-stone rollers Burns peanut butter mill Racine cutter Hohberger cutter Berks mixer

**The Manufacturing Confectioner,**  
Box 6614 418 North Austin Blvd.  
Oak Park, Illinois

10 copper revolving pans for sale. 8 on one shaft line with 5 HP motor. Two with separate motors attached. Gregg Candy and Nut Company, 101 South Main Street, Sharpsburg, Pa.

Model K kiss machines; LP pop wrapper for ball-shaped pops; N. E. continuous cooker, late style; Latini 38" grossing pans. Box 6611, The MANUFACTURING CONFECTIONER.

Late-style instant fondant machines; 32" Racine depositor; 48" Greer enrober. Box 6612, The MANUFACTURING CONFECTIONER.

### HELP WANTED

Unusual opportunity for capable, hard working young man who wants a future. Manufacturer with new plant and four retail stores needs all-round manager. Manufacturing quality chocolates, soda fountain, and direct wholesale sales experience helpful. Reasonable salary plus share in profit. Location growing Western city. Box 6617, The MANUFACTURING CONFECTIONER.

Salesmen wanted. Cellophane-Polyethylene. Bags-Rolls-Sheets. Openings for exp. or well connected salesmen. Unusual opportunity for intelligent and imaginative men with old est. fully equipped firm. Sal. plus bonus or com. only for part time men. Reply in confidence. Mason Transparent Package Co., Div. Mason Envelope Co., Inc., 1180 Commerce Avenue, N. Y. 62.

### BUSINESS OPPORTUNITIES

**HOLLOW CHOCOLATE MANUFACTURING BUSINESS** in Eastern Pennsylvania. Fast growing, active business complete in every detail. No experience needed. Present owner will train and help finance. Box 6615, The MANUFACTURING CONFECTIONER.

For sale or rent. Small complete candy factory. Located in large city on the West Coast. All machinery in good condition. Stock of supplies. World's Fair coming soon! Box 6616, The MANUFACTURING CONFECTIONER.

Candy manufacturing wholesale plant in Oklahoma, well equipped with Hudson Sharp wrapper. Now serving 12 states in the Midwest. Also retail outlet on U.S. 66 and Interstate 40 highways. Box 5612, The MANUFACTURING CONFECTIONER.

Owner ill. Chance of a lifetime. Two beautiful candy stores in fabulous world renowned Laguna Beach, California. Year-round business no summer slump. Complete line of highest quality candies. Well equipped kitchen. Further information on request. Candies By David, 269 Forest Ave., Laguna Beach, Calif., Phone Hyatt 4-6021.

### SITUATIONS WANTED

Instructor. Synthetic chiclets and gum base, also general pan line. Will teach all over the world. Have started many factories in Europe. Best references from Europe and America. Box 6618, The MANUFACTURING CONFECTIONER.

### MISCELLANEOUS

#### WIRE FORMS: RACKS WIRE DISPLAYS:

Made to Specifications

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Fastform Wire Division

6171 Carnegie Ave. • Cleveland 2, Ohio

**Folding Candy Boxes:** All sizes carried in stock for prompt delivery. Plain, stock print or specially printed. Write for our new catalog of every-day and holiday fancy boxes, and all paper products used in the manufacture and packing of candies. **Paper Goods Company, Inc.**, 270 Albany Street, Cambridge 39, Mass.

# NULOMOLINE

## for Perfect Balance

Be sure your candies retain optimum freshness by balancing your formulas with NULOMOLINE! The high levulose content in NULOMOLINE provides superior moisture-retaining and grain-controlling properties. It enables you to control the quality of your candies from kettle to customer. NULOMOLINE's ability to control texture, preserve freshness means bigger sales, time and again!

Our booklet "Thumbnail Candy Talks" of Basic Candy Formulas sent on request.

NULOMOLINE is packed in 650-lb. drums, 350-lb. half-drums and 50-lb. pails.

Our Technical Staff is always available.

### THE NULOMOLINE DIVISION

AMERICAN MOLASSES COMPANY

120 Wall St., New York 5, N. Y.—Digby 4-4920

PLANTS AT: Brooklyn, N. Y. • Boston, Mass. • Chicago, Ill. Los Angeles, Calif. • New Orleans, La. • Wilmington, N. C. Montreal, Canada

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# Direct Line to Good Flavor

memo:

*Call  
today! florasynth!*

## the "12" line IMITATION CONCENTRATED CANDY FLAVORS

Apple  
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Banana  
Blackberry  
Butter  
Butter Scotch  
Cherry (Tame)  
Cherry (Wild)  
Coughdrop  
Cranberry  
Currant (Black)  
Currant (Red)  
Grape  
Grape (Concord)  
Grenadine  
Honey  
Loganberry  
Peach  
Peach Blossom  
Pear  
Pineapple  
Pistachio  
Plum  
Raspberry  
Root Beer  
Rum and Butter  
Strawberry  
Tutti Frutti  
Walnut (Black)  
Walnut (English)

Discover for yourself why FLORASYNTH FLAVORS have so much more buyer appeal, more exacting qualities and so much more dependability . . . Just one call to your nearest FLORASYNTH office brings continued satisfaction.

*Florasynt*  
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## The Hubinger candy man is indomitable

He's ready with knee pads and liniment, whenever you need a rugby forward, lacrosse center, or cricket wicket-keeper. He is equally as adept, as you can plainly see, on the badminton court.

His sporting enthusiasm is boundless, and winning is important to him. He becomes positively invincible when he throws himself, body and soul, into the candy game.

Remind him, when he comes, to tell you about his Olympian victories over problems of candy production and quality control. He will gladly describe how, with the help of dependable OK Brand products, he has decisively defeated the adversaries of good taste, good texture and long shelf life. Write, wire or phone for demonstration of his prowess.



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DRI-SWEET CORN SYRUP SOLIDS  
THIN BOILING STARCHES  
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